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The Extension Messenger

UNIVERSITY OF ILLINOIS

A series of brief notes from the weekly reports of the Farm
Advisers, College and Experiment Station Workers and the
State Leader's Office

JAN 11 1922

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

January 4, 1922

No. 1

Shall We Feed
Cottonseed Meal
or Oil Meal With
Lecune Hay?

"Several inquiries have been received relative to the advisability of including some nitrogenous concentrates such as cottonseed or oil meal in the ration for feeding steers. According to the results of trials at several experiment stations, it may be stated that for full feeding steers weighing around 800 to 1000 pounds, it is not necessary to add cottonseed meal or oil meal to a ration of corn and clover hay or corn and alfalfa hay under present prices (corn \$.40; alfalfa .16; clover .12; cottonseed meal and oil meal .40 a ton.) The meal in either case may increase the rate of gains but this would not justify the extra cost except in special cases.

"With rations containing corn, corn silage, and alfalfa hay, cottonseed meal has a replacement value of \$20 to \$25 a ton. In case of clover hay in the same ration, the meal would be worth from \$30 to \$35 a ton. In rations where a full feed of corn is fed with straw, corn silage or stock fodder as roughage, a nitrogenous supplement such as oil meal or cottonseed meal is advisable and should be added at the rate of one and one-half or two pounds per 1000 pounds of live weight daily." - W. H. Smith, Animal Husbandry, Department, U. of I.

Calf Club Plans - "December first the entries for the Calf Club were closed and we have over 50 members for next year. This year the girls and boys will choose the breed and a committee of three live stock men in the County have been appointed to buy the calves for the club members. These calves will be distributed during the month of February. Last year our 36 head of Baby Beeves sold for an average of \$10.85 per cwt." - Morgan, Pres. Henry County Farm Bureau.

A County Poultry Association. - "Poultry breeders, farmers, wives of farmers, and others interested in the development of poultry, met at Carthage, Friday afternoon, December 9, and organized the Hancock County Poultry Association. Mr. A. D. Smith, Secretary of the Illinois State Poultry Association, was present at the meeting. Twenty-six members were enrolled. The organization has a group of active workers behind it and should meet with great success." - Lloyd, Hancock Co.

A Corn and Poultry Show was held at Carbondale last week. The first prize for the yellow corn was a fine pure bred Duroc-Jersey gilt furnished by the Duroc Jersey Breeders' Association. The first prize for the white corn was a Poland-China gilt furnished by the Poland-China Breeders' Association. Seven prizes in all were given for each class of corn. Mr. Hackleman judged the corn and gave an address on the subject "Selection of Corn for Seed", which was greatly appreciated. - Thomas, Jackson County.

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"Most of our poultry culling work has been drawn to a close. It is very noticeable over the county that we are having an increase in the production of eggs which is possibly due to 2 or 3 reasons. Late moulters are now coming back into laying and spring pullets are just beginning to lay. Coupled with these above facts it is very noticeable that over the county in general there is a great increase in the use of a dry wash in feeding for winter eggs and a desire upon the part of some people to get rid of the slacker hens and non-producers. This is one of the most successful pieces of work which we have undertaken in the county." - Kercher, Pike Co.

"The Marion County Poultry and Pet Stock Association held their show this week. This is the first time we have had a poultry show since I have been in the county, and it certainly was an excellent show, considering it being the first attempt." - Blackburn, Marion County.

"The First Annual Corn Show and Poultry Show was a success. we had 108 entries of corn, mostly 10 ear samples and we had representations from all sections of the county. we had the county divided into four zones and had the first prize winners compete for sweep takes. The corn was judged on utility type. In connection with the Corn Show we had an Agricultural Short Course. we think one helped the other." - Wilson, Bureau Co.

Visualized Score Card is Feature. - "The Grundy County Farm Bureau recently put on the annual County Corn and Poultry Show at Morris. The corn show was a utility show and judged on the new utility score card. The number of exhibits was smaller than previously, due partly to changing over to the new score card and partly to the difficulty in securing good show corn due to the worm damage. The utility feature, however, was very vividly demonstrated and William Webb, the judge, stated that our previous shows have made it easier for us to stage the utility show due to the fact that we have been adhering somewhat to this type of corn. In addition to a number of good ten ear samples exhibited in both boy's and men's classes there were a number of good bushel exhibits. The feature of the corn show was the visualized utility score card which was a direct copy of the demonstration put on at the International Hay and Grain Show by the University of Illinois. This drew much comment." - Longmire, Grundy Co.

Ready to Test Corn. - "We have just completed for office use, a modified rag doll seed corn tester and are prepared to test for disease 700 ears of corn each week up to corn planting time. The two vocational Ag classes in the county will probably operate similar testers." - Brown, Stark Co.

Will Eradicate Flag Smut. - "Last week was largely devoted to a campaign of education in the flag smut area. we have been showing the government reel, 'How a Plant Disease Spreads', and had excellent attendance at all of the meetings. we have sought to show the men how diseases spread by spores and the necessity for gathering up the infected plants and burning them in order to destroy infection. we find our men are very responsive to the suggestion of pulling the diseased plants from the infected fields. The work will be continued during the coming week." - Raut, Madison Co.

"We are re-establishing branch office visits thruout the county, beginning last Saturday at Oblong. By this plan, I can spend one Saturday afternoon at different central points outside of Robinson, and in one month's time circle the county." - Logan, Crawford County.

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"Eat Your Own Fork - (4th of a series of 5 articles) The pork cuts which are usually cured are the hams, shoulders or picnics, and bellies or bacon. For home use these are usually "sugar cured". This may be done either in a brine or dry cure as desired.

A standard recipe for a sweet pickle is 12 lbs. salt, 3 lbs. sugar (either granulated or brown), 2 oz. salt peter and 6 gals. water for 100 pounds of meat. Thoroly mix the salt, sugar and salt peter together and rub a coating of it over all the meat and allow it to lay in a cool place over night. Add the remainder of the salt mixture to the water (6 gals.) and allow it to boil. Skim off any scum. Pack the meat as compactly as possible skin side down, in a stone jar or hard wood barrel. The top layer of meat should be placed skin side up with a weight upon it. Then pour in the cool brine. Make sure that all the meat is completely covered. For curing meat which is to be kept until the following summer, each piece should remain in the brine four days for each pound it weighs. Meat which is to be eaten during the winter may be given a milder cure by removing it sooner.

Overhaul and repack the meat at the end of the first and again at the end of the second week, using the same brine. If the brine sours or becomes ropery, remove the meat, scrub it thoroly in warm water, and repack in a clean barrel with fresh brine. A cool cellar, above the freezing temperature is the best place for curing. After curing, remove the meat and allow it to soak for several hours in warm water, and thoroly scrub it and string for the smoke house. Hang it in the smoke house and allow it to dry over night.

A standard recipe for dry cured pork is 5 lbs. salt, 2 lbs. sugar (granulated, brown or molasses), 2 oz. saltpeter, and pepper to suit the taste for each 100 lbs. of meat. Mix the ingredients thoroly and rub one third of the mixture into the meat and pack it in a tight box. After three days rub another third of the salt mixture into the meat and repack. After another three days rub in the remainder of the salt mixture and again repack. It should remain there for 12 to 15 days after which it should be removed, washed and dried as described above. This is not as safe a method as the brine method but the meat has a milder flavor. It works best in a cool, moist cellar.

Smoke over a cool fire of hard wood, such as hickory or maple, or corn cobs, smothered with hard wood sawdust. Avoid pine wood or saw dust as it will give the meat a resinous flavor; and make it black and sooty. The meat should be hung so that none of the pieces touch and far enough from the fire - 6 to 8 feet - so that it will not get too warm. Bacon should smoke 24 to 36 hours and hams and shoulders 60 to 90 hours. It is better to extend the smoking period over several days rather than to keep a continuous smoke for the required length of time. Fresh sausage in casings may be smoked for several hours to improve its palatability. It also will keep several weeks longer after smoking." Sleeter Bull, Meats, U. of I.

"Tuberculin Testing Opens Up - The Bureau of Animal Industry has finally received the Emergency appropriation recently passed by Congress, but the original sum was cut down by one-third. The shortage of money has caused a limitation to be put on testing in the future, and up to date only the counties having a full time veterinary cooperating with the Farm Bureaus are in a position to do testing. Edgar County has already put into effect the plan so successfully used in one township, and intends to take advantage of just as much of the money as possible. It would seem that the five counties having federal veterinarians on their pay rolls have a great advantage over other counties desiring to test," - T. R. Lovett, Dept. Dairy Husbandry, U. of I.

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JAN 17 1922

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. I

January 18, 1922.

No. 3

Do We Really Believe in Crop Rotation?

"Few farm advisers, or even farmers, would answer no, to the question, 'Do we really believe in crop rotation?' The facts are, however, that only a small proportion of farmers are making any real, consistent effort to meet the essential requirements of a good rotation. This is due, perhaps, mainly to two factors. First, because farmers, and many of the rest of us, still lack much of the information necessary to thereby convince us that a good rotation of crops actually does return a greater profit to the farmer than do the present cropping practices. And, secondly, because many farmers are unwilling to give the extra attention and effort, or are unable to meet the extra expense sometimes necessary in growing a good rotation of crops.

Let us examine briefly the first factor, i.e. the securing and dissemination of information about a crop rotation.

The Morrow plots give the results of three different rotations grown at Urbana since 1879. Other studies extending over shorter periods give information for nearly all of the important farming areas of the state. These studies alone furnish ample data to justify growing good rotations solely from the standpoint of increased yields.

There are several other important reasons why good rotations are more profitable than those now somewhat generally used. (1) A good rotation reduces the cost of growing crops per bushel, or per ton. (2) It provides better feed for the growing and fattening of animals and for the production of milk. (3) It provides some measure of insurance against a more or less complete failure of crops in any season, and against unfavorable prices for any one crop. The fuller discussion of these three reasons will be continued in the next issue of the Messenger." - W. F. Handschin, Prof. of Farm Organization and Management, U. of I.

"Sweet Clover on Fertile Soil. - It is frequently said that sweet clover is of little use on a farm of rich soil. But the past year's yields on the Hartsburg soil experiment field (Logan County) shows that the returns from its use are as much on a fertile soil as on a poor soil. The Hartsburg field is situated on one of the richest types of soil in the corn belt, technically known as black clay loam. The rotation used is wheat, corn, oats, and clover (red). The soil of this field is not acid and grows sweet clover well without the use of limestone. The following are some of this year's corn yields obtained on the Hartsburg field: Soil receiving no treatment, 45.7 bu. per acre; sweet clover seeded as a catch crop in wheat and plowed under for corn, 57.3 bu. per acre. The last four year averages show about the same increase for sweet clover. The growth of sweet clover plowed under was estimated to be about $1\frac{1}{2}$ tons of dry sweet clover per acre. Residues as straw and corn stalks have been returned to the sweet clover plots as they grew. These residues are responsible for some of the increase given above, but the chances are that it is a very small portion." - R. P. Thomas, Asst. in Soil Survey Experiment Fields, U. of I.

"Tan Your Own Hide - So many inquiries have come to us this winter for methods of tanning hides on the farm that we submit without recommendation the following instructions from the University of Nebraska:

'HIDES FOR ROBES AND RUGS: (Any kind). Salt the green hides heavily on the flesh side. Fold the flesh sides together and roll them. Leave hides for a week. Then soak in water until soft. Clean and flesh. By 'fleshing' is meant the process of removing all of the flesh and inner membrane which adheres to the hide proper. This should be done by spreading the hide over a barrel or similar device and scraping; it with a dull knife or whatever is most convenient. In case of a sheep or goat skin, the wool or mohair should be cleaned in a fairly strong solution of soap and sal-soda before the process is continued further. After cleaning and fleshing, the skin is tanned in the following solution: Take the liquor drawn from three pounds of scalded bran, add one gallon of soft water, one pound of alum, one-fourth pound of salt, three tablespoonsful of borax. Make in the above proportions sufficient solution to cover the hides. It is necessary to tan light hides about two weeks and heavy hides about four weeks in this solution. It is advisable to work the hides more or less as they dry in order that the robe will be soft and pliable. In case the hide was not salted for a week as outlined above, the salt added to the tannin solution should be doubled.

'HIDES FOR LACE LEATHER: Remove the hair as follows: Cover the hide with water, then add lime until the water feels slick to the fingers. About two days soaking in this solution will loosen the hair sufficiently to scrape off. Scrape, clean and flesh both sides. Rinse in fresh water and soak for about two days in one gallon of bran boiled and fermented, with sufficient water added to cover the hides. Clean and rinse the hide and tan in the same manner as outlined for robes and rugs. After the hide has been tanned, rinse and drain. While still damp, rub on all the Neatsfoot oil the hide will take. Work the skin as it dries to shape and soften.

'FOR HEAVY LEATHER: Treat practically the same as lace leather until tanned. After tanning, put fish oil on hair side of skin and half and half Neatsfoot oil and tallow. Hang hide up straight for drying. In case leather gets too dry and stiff, redampen, roll tightly, packing in a box or barrel for a few days to season. It may be well to add more oil after dampening."

Professor W. J. Loeffel who is the author of these instructions writes that it is a very laborious process. It required two men a day to remove the hair and flesh from a steer hide. During the drying process it requires a great deal of labor to work in the oil to keep it soft and pliable. The undersigned would greatly appreciate learning the results obtained by any one who uses the above method." - Sleeter Bull - Meats - U. of I.

Farm Butchering Demonstration Popular - "The Farm Bureau staged a home butchering and meat cutting demonstration on the farm of J. F. Wisener, two miles southwest of Hazen this week. Forty farmers attended the demonstration and expressions of appreciation of this type of work were liberal. The demonstration work was done by a farm bureau member who has had considerable butchering experience. This man was able to show in a clear-cut manner several improvements and handy practices in the art of home butchering, such as the removal of the leaf lard, the spare ribs and toes, and a quick, neat job of work thruout, including cutting up of a hog that was butchered the day before in order that it might cool out and be ready to be used at the cutting demonstration.

In addition to showing the art of home butchering, the farm bureau had in mind the encouragement of more home butchering, the idea being brought out definitely by Professor Sleeter Bull of the University of Illinois, showing the average hog of 225 pounds netting \$13.50 on the hoof which if brought back at regular meat prices over the block would cost the farmer \$33.19, thus showing a specific saving

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Vol. V.

January 25, 1922.

No. 4

Rotation and Cost Reduction

"The unit costs, i.e., the costs per bushel or per ton, of the various crops in a rotation are determined by two factors, the operating expense of the farm and the yields per acre. On corn belt farms from 60 to 80 percent of the total operating expense is made up by man and horse labor costs. From 40 to 55 percent of all man labor is used in the production of crops on such farms. It is evident, therefore, that any reduction which can be made in either of these two items will have an important influence on the cost of growing crops.

A good rotation of crops is the most important factor in reducing the unit costs of man and horse labor, especially horse labor. Such a rotation distributes the man and horse labor used more evenly thruout the cropping season. This is only another way of saying that each man and each horse can grow a larger number of acres of crops with a good rotation than without such a rotation. As the number of acres of crop grown by one man or one horse increases the cost per acre tends to decrease. A good rotation, therefore, tends to decrease the per acre costs of growing crops. This is important even tho the yield per acre might not be at once decreased as a result of the rotation. It would still be an important factor in decreasing the costs per bushel and per ton of crop grown, because of the reduced cost per acre.

When the rotation results in increasing the yield per acre, which is actually the case where a good rotation follows an extractive system of farming, the costs per unit of crop produced is reduced still farther. It is a matter of common knowledge that it does not require 25% more labor to increase the production of corn from 40 to 50 bushels or of wheat from 20 to 25 bushels per acre.

A good rotation, therefore, makes possible the reduction of costs per acre and consequently per bushel and per ton, as soon as it is adopted. It makes possible a further reduction in the cost per unit of crop grown whenever such rotation results in increased yields. It should be noted especially that increasing the yield per acre as a result of introducing a good rotation, does not necessarily mean increasing the number of bushels of cereal crops produced. The introduction of legume crops into the rotation, will reduce by that much the cereal acreage. Until a corresponding increase in the yield of such cereal crops grown occurs, the change would result in a reduction rather than an increase in the total number of bushels of cereal crops grown." - J. F. Handschin, Prof. of Farm Organization & Management, U. of I.

Three Times as Much Sweet Clover - "This office has already ordered more than three times as much sweet clover seed for 1922 as has been used any previous year. Our campaign for a field of sweet clover on every farm that has used limestone is getting results. One of our farmers will sow over 100 acres this year and several are sowing 50 or more acres. Our people are just beginning to realize the value of sweet clover as a pasture crop as well as a soil builder." - dewerff, Franklin County.

"Belting Don'ts." - The following are ten of the many commandments that govern the proper installation and operation of belts and belt work:

1. Don't use mineral oils on any belt; for leather use a mixture of neats-foot, cod, tallow, woodgrease -- any one or all are good; for rubber and gandy use a little raw linseed oil or a good belt dressing that contains no resins.
2. Don't allow leather belts to get hard, dirty, or greasy. Wash quickly with mild soap, dry at once, apply dressing with brush or waste on outside and work in.
3. Don't allow dressing or dirt to accumulate on any belt or pulley. Remove by careful scraping or washing.
4. Don't run belts in a vertical position. Keep them on a slant, or horizontal.
5. Don't use small pulleys. Allow 2" in diameter for every ply belt, and a single leather belt is equivalent to a 4-ply fabric belt.
6. Don't use a narrow, tight belt. Use a wider belt with less tension. It will transmit more power, and be easier on belt, bearings, and motor.
7. Don't use a thick belt -- keep to wider, more flexible belts, especially on small pulleys.
8. Don't make bulky lacings that hammer the life out of the belt and machine.
9. Don't run belt too fast. Keep it below 4000 ft. per minute, better around 2500-3000.
10. Don't overload a belt - a screeching sound says that the belt is slipping. When a flexible, clean belt - with proper tension, still slips, it is overloaded. The proper tension belt is 60# per inch of width for a single leather belt or 4-ply fabric and 100# per inch for a double leather or 6-ply fabric." - C. A. Schell, Dept. Farm Mechanics, U. of I.

"1920 Census Facts About Hogs." - The total number of hogs in Illinois, according to the 1920 census, was 4,639,182. Of this number nearly 930,000 were sows and gilts of breeding age. There was on hand at that time one boar for every 12 sows and gilts. The number of hogs for the average sized farm in Illinois of 135 acres was 19.5 hogs. About one hog may be found in the southern one-third of the state to every three hogs in the central and northern sections of the state.

"The ten counties with the largest number of hogs are all in the northwest, central and western parts of the state. One-fourth of the hogs in the 102 counties of the state are in these ten counties. The hogs in these ten leading counties are as follows: Henry-140,286; Fulton-134,833; Mercer-119,337; Bureau-118,252; McLean-113,576; Knox-113,262; Warren-105,679; Pike-104,762; Hancock-96,818; Sangamon-95,232.

"A decrease in the number of hogs is found in many counties of the state when compared to the 1910 census in spite of the fact that there is but little difference in the number reported for the state. The southern counties, comprising 34, show a decrease of 10%. The majority of the western and northern counties also show a decrease. This loss is made up by an increase in the number in the northeast central part of the state. Fourteen counties in this section show an average increase of 19 percent. This is a section where much corn is grown for the number of hogs raised. Champaign County, the county with the second greatest corn crop in 1919, had an increase of 31% in the number of hogs in the last ten years.

"For every hog on farms in Illinois on January 1, 1920, there were 62 bushels of corn raised in the state in 1919. The 10 counties with the largest

number of hogs, raised 41 bushels of corn in 1910 for every hog on their farms on January 1, 1920. More hogs are advocated for the southern part of the state by many men. We find that they now raise more hogs for the corn produced than the ten counties with the largest number. The southern 34 counties of the state raised 30 bushels of corn for every hog on farms on January 1, 1920." - J. B. Rice, Dept. Swine Husbandry, U. of I.

Club Calves Should Go Into T. B. Free Herds - "In several counties in the state, people are organizing Dairy Calf Clubs or are considering organizing them. If conditions are right the dairy calf club can be made an important factor in improving the dairy livestock in the state. Among other things to consider when organizing a calf club is whether or not the herds that the calves are going into are free from tuberculosis. It is poor policy to get a boy to invest in a good pure bred heifer and allow her to run or be housed with a herd that is not known to be free from tuberculosis." - C. S. Rhode, Dairy Dept., U. of I.

Farmers' Market - If you have not already done so, you may be interested in reading, in the January 14 issue of the Prairie Farmer, the account of the farmers' market which has been established in Kankakee under the auspices of the farm bureau. - G. H. Coffey, State Leader.

Beware Stock Foods - We have had another loss of hogs in the county due to the feeding of hog tonic. One of our members at Rockport fed a gallon of Iowa Stock Food to 48 head of hogs and 22 of them were seriously affected; 12 of these hogs died quite suddenly and the remaining 10 were given treatment by a veterinarian and have recovered. This is the fourth farmer who has lost hogs from feeding stock food within the last few months." - Kercher, Pike Co.

"A boys' corn judging school and contest was conducted by the Farm Bureau in connection with the Farmers' Institute. In the past there has been a boys' corn show but the corn was usually picked out for them by someone else. The contest was popular among the boys and we hope that in the future the boys will be able to help their fathers pick their corn. The visualized utility score card was of value in conducting the school which preceded the judging contest." Keepers, Kane County.

"Our Christmas window Display attracted much attention. We had two pens of three hens each. One pen was non-layers and the other layers. The latter was being properly fed in a self feeder. The former was fed corn and grit, just as the average farm flock is fed." - Richey, Mercer Co.

Patrol Roads Recommended - At the all-day quarterly meeting of our Advisory Council it was decided to recommend the county plan of patrol maintenance of about 100 miles of road which is already oiled, and gradually to begin and extend a system of gravelling other roads." - Robbins, Dewitt Co.

Declares Dividends - "The Dewitt County Farmers' Cooperative Grain Company was organized two years ago at the high price time. In spite of that handicap it has prospered and this year it is declaring a dividend of 5 percent and leaving about seven percent for reserve and surplus." - Robbins, Dewitt Co.

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Vol. V

February 1, 1922.

No. 5

Proportions of Different Crops in the Rotation

A good rotation must necessarily include some legume crop. Just what proportion of the rotation area should be in legumes depends upon several factors. Most important among these would probably be the following: (1) the amount and character of the nitrogen content in the soil as compared with the other plant food elements present; (2) the character of the legume crops grown, i. e., heavy or light yielding; (3) the nature of the other, i. e., non-legume, crops grown; (4) the disposition of the legume crops grown, i. e., whether they are harvested and fed to livestock, and the farm manure returned to the land, whether they are plowed under directly for soil improvement, or whether some combination of these practices is used.

Because of the fact that nearly all farming regions must confine themselves, economically, to not more than three or four non-legume crops and one or two legumes, it follows that the rotation in general farm practice will include not more than 3 to 5 different crops. In working out a systematic plan of crop production, under these conditions, we will have, then, either a 3, 4, or 5 year rotation. If one of the crops included in such a rotation is a legume we shall have either 33 1/3%, 25%, or 20% of the total area in the rotation occupied by some legume crop. Naturally this proportion of legumes may be changed to meet individual variations for the farm or the farmer, or by the failure of some crop to produce a stand or live thru the winter in a given year. If, however, any rotation is to be somewhat systematically followed the proportions of legume crops grown must conform somewhat closely to the figures given above. The proportion of legumes may also be increased somewhat by means of growing them as cover crops, supplementary to the regular rotation.

If rotations in general farming tend to be either 3, 4, or 5 years in length, the problem may be reduced to somewhat standardized rules of procedure. If we assume that one unit of the rotation is to be in legumes, how can we decide upon the crops which shall occupy the other 2, 3, or 4 units.

Where the non-legume crops to be grown are all about equally profitable, the usual procedure would be to grow them in about equal proportions. When they vary in relative profitableness the proportion of the more profitable crops would be increased as far as practicable. Thus where corn, wheat and clover are about equally profitable we have the standard 3 year rotation, corn, wheat, and clover. This is the common rotation in many sections of Indiana and Ohio. It is practiced to a lesser extent in southwestern Illinois. Where corn is decidedly more profitable than wheat or oats we should probably follow either a 4 or 5 year rotation made up as follows: (1) corn, corn, oats and clover, or (2) corn, corn, cats, wheat and clover. In general the rule or procedure would be to include a legume crop, and as large a proportion of the most profitable non-legume crops as is consistent with the maintenance of soil nitrogen and good farm management practice. Naturally, the proper sequence of crops, both from the standpoint of farm practice

and physiological requirements must be observed as working out a rotation plan. -- W. F. Handschin, Prof. of Farm Organization & Management, U. of I.

Note: The third sentence in the first paragraph of last week's article should read as follows: From 40 to 55 percent of all man labor and from 70 to 80 percent of all horse labor is used in the production of crops on such farm. W. F. Handschin

"Cream Separators Need Attention - A tester in one of the cow testing associations reports that he has tested every separator being used in his association and that most of the separators leave from .03% to .05% of fat in the skim milk. One month a separator was tested and it was leaving .2% fat in the skim milk, which amounted to 22 pounds of fat for the month, or a cash loss of \$11. This separator was not running at the proper speed. A separator must be operated under the following conditions if efficient skimming is to be obtained:

1. Gain the proper speed gradually and turn at the speed which is recommended by the manufacturer (usually found on the separator handle).
2. Good, clean, light oil must be used.
3. The machine must be cleaned after each separation.
4. The bowl must be in perfect balance.
5. Milk should be 85° to 95° F. at time of separation.
6. Allow the float to regulate the inflow of milk. Never start the inflow until the machine has reached its proper speed.
7. Set the separator to deliver cream 18 and 50 percent, preferably 30 to 45 per cent." - C. S. Rhode, Dairy Department, U. of I.

"Pig Losses. - A large number of farm records show that two and one-half pigs of an average sized litter of eight pigs are lost between the time of farrowing and weaning. One-third of the pigs lost are farrowed weak or dead, one-third of the pigs are laid on by the sow, and the other one-third are lost for miscellaneous reasons such as scours, thumps, eaten by sow, abortion, injury, soremouth, etc.. The first mentioned loss can be lessened somewhat by feeding the sow desirable rations and making them take plenty of exercise. The second loss can be checked with noticeable results by giving the sows roomy, comfortable pens and adequate attention during the first two weeks. Many of the miscellaneous losses may be lessened thru good feeding, clean quarters, and proper attention." - J. B. Rice, Dept. of Swine Husbandry, U. of I.

The long looked for Circular No. 251, "A List of Books for the Farmers' Library" is off the press and copies are available for distribution. Books on every phase of agriculture, from Agronomy to Rural Sociology are listed together with a description of contents, publisher, price and other data. Address the College of Agriculture, Urbana, for copies. A small supply is being sent to Illinois Farm and Home Advisers.

Far Famed - "The Farm Bureau has been receiving orders for sweet clover seed from numerous distant points which include the states of Washington, Minnesota, Indiana, Michigan, Ohio, Wisconsin, and numerous points in Illinois. Most of these from distant points are for the Grundy County white blossom biennial, which is an early maturing strain." - Longaire, Grundy Co.

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Vol. V

February 8, 1922.

No. 6

Good Rotations
Necessary
to
Efficient Annual
Production

It is common knowledge among livestock farmers that corn must be supplemented with feeds containing a larger proportion of protein if feeding is to be carried on economically. The same is true of the other carbonaceous cereals, i. e., the cereals having a high starch content. To all such carbonaceous cereals must be added some form of protein feed if the best returns are to be made from the cereals fed. This is especially true in feeding milch cows, growing young animals and breeding females.

While shorts, tankage, oil meal, cottonseed meal, soybean cake, bran and other by-product feeds may well be used to supplement corn and other carbonaceous cereals, the total amount of such feeds available is entirely too limited to balance the carbonaceous cereal crops produced.

Since practically all of the cereal crops produced, excepting wheat, must be fed to animals it is necessary to grow a considerable amount of legume crop material to properly balance such cereal crops fed. Without such legume crops to supplement the cereals fed, the full feeding value of such cereals cannot be realized. We must either grow enough legume crops to properly balance the cereal crops fed, or waste cereals.

If we compare the acreage and production of legume crops with the acreage and production of the non-legume crops which must be fed to animals, we cannot help but reach the conclusion that we must have a larger production of legumes if we are to use our cereals and other non-legume crops in the most economical way. We must conclude, therefore, that from the standpoint of the most economical utilization of our cereal crops alone, that we must have a larger production of legume crops.

This means that the legume crops should have a fairly large place in our ordinary farm rotations, not alone because of their influence on the maintaining of soil nitrogen, but quite as much because such legumes must be grown and fed if the other crops in the rotation are to be used economically. Without an adequate production of such legumes, the other crops grown must of necessity be to a greater or lesser extent wasted.

With the proportions of legume and non-legume crops grown at the present time it is likely true that one of the greatest wastes in our farm economy occurs in the feeding of rations not properly balanced because of a lack of protein feed. Such protein feed cannot be supplied in adequate amounts only thru the production of more legume crops. These legumes can be produced economically only thru a system of cropping which meets the essential requirements of a good rotation. - W. F. Handschin

"Feeding Farm Work Horses and Mules" by J. L. Edmonds and W. J. Kammlade, Bulletin 238, has just been issued by the College of Agriculture.

"Farm Building Plans. - Several of the advisers have manifested considerable interest in the subject of blueprint plans of farm buildings since the recent conference. This has prompted the preparation of a list of the plans that may now be secured from the Department of Farm Mechanics, a copy of which is being sent under separate cover to each adviser. This list is by no means complete; it is merely a beginning. It must be remembered that some of the plans on this list are plans of experimental barns and other buildings constructed on the University farm. These will probably be eliminated from the list as plans of different types better suited to actual farm conditions are worked out. This will be done in cooperation with the particular departments concerned and with the aid of the men in the field. Ultimately a set of plans of buildings and equipment that are in actual use will be provided. Such a service at its best can only be suggestive and a source of ideas for the builder." - E. W. Lehman, Head of Dept. of Farm Mechanics, U. of I.

"A Livestock Shipping Association School for shipping association managers and officers will be held at the St. Nicholas Hotel at Springfield, February 16. Problems of Organization, the listing of livestock, livestock insurance, methods of handling livestock prior to and during shipment, care at the yards and railroad rates are the topics to be discussed. This is the first of a series of schools, which was recommended by the Animal Husbandry Committee at the District Conferences held last fall. Tentative plans are being made to hold similar schools in the other districts thruout the state. If any of the advisers have any questions or suggestions concerning these schools, they will be cheerfully received." - W. H. Smith, Animal Husbandry Department, U. of I.

"We have tested 295 herds of cattle for tuberculosis since the emergency appropriation became available, December 26. The work of education has been largely completed in this county and our problem now is simply of organizing to speed up the work. Out of our estimated 2250 herds in the county, we have more than 800 under supervision and applications grouped for about 360 more. The method used is to ask some man, preferably a Farm Bureau member, to organize a neighborhood, sending in a list of names in the order in which they are to be visited. Each of these men then receives a letter from us, giving him full instructions and telling him the day and approximately the hour when the veterinarians will visit his farm. We are making a practice of injecting Monday, Tuesday, and Wednesday each week and following up with the inspection of same herds on Thursday, Friday, and Saturday. In the past week, we have handled 35 herds in one day and 38 on another. We believe this to be a record which justifies the methods we are using." - Waters, Edgar County.

"All It Needs is a Limestone Foundation. Sweet clover on southern Illinois tight clay soils very seldom fails to make stand, and the time of seeding seems not to make a great deal of difference. The following table shows the results of 34 tests covering 12 years on the following experiment field: Odin, Ewing, Toledo and Unionville. This sweet clover was seeded on winter wheat. Figures represent number of trials.

Date of Seeding	Condition of Stand		
	Excellent	Fair	Failures
Feb. 1; to 20	6	0	0
Feb. 20 to 28	7	1	0
March 1 to 15	11	6	1
March 16 to 30	0	2	0

(Continued from Page 2) The one failure was at Ewing and was due to lack of inoculation, the time of seeding having nothing to do with it." - John Lamb, Jr. U. of I. Experiment Fields.

"Red Clover in Winter Wheat. - On the McNabb Experiment Field (Putnam County) red clover has been seeded in winter wheat for the past 14 years. The following table shows the time of seeding and shows the stands secured. The figures represent the number of years that clover was seeded between dates indicated.

Time of Seeding	Conditions of Stand		
	Excellent	Fair	Failure
Feb. 20 to 28	1	0	0
March 1 to 15	10	0	1
March 16 to 30	2	0	0
April 7	0	1	0

The 1921 seeding was seeded March 1 to 15 and was killed by frost March 28 and was reseeded April 7. A fair stand was secured. This is the only failure in the 14 years." - O. M. Linsley, U. of I. Experiment Fields.

Necessary to Test Corn This Year. - "We are carrying out a program of community corn shows. Eight kernels from each ear which is entered are germinated at the Farm Bureau office under conditions that bring out disease infection and weakness. Seven of these shows and meetings have been held to date, and the interest and attendance has exceeded our expectations. There have been as many as 37 entries at one place. The farmer himself will, of course, come to see how the corn germinated and usually brings two or three of his neighbors. After these local shows are held we plan to hold two sectional shows--one for farmers in the north half of the county and one in the south half. We have found the seed corn to be badly diseased. It will take a good season, good soil, and good farming methods to produce a crop of corn that will yield above the average, if the present supply of seed corn is used in 1922."- Bracker, Knox Co.

"Cleaning up the Farrowing Pens and Lots - Too little emphasis is placed upon the importance of cleaning the farrowing pens and lots before the pig crop comes. Some of last year's pig troubles may be expected this year if the pigs are left to farrow in the filthy pens of the last crop of pigs and later are allowed to run in the same lots without first plowing the ground and growing some crop. If we are to make the growing of pigs pay in the next few years we may have to watch the smaller items closer than we have this season.

The pens of the house should be thoroly cleaned with the pitchfork, shovel, and broom, and later followed with a hot lye solution in every crack and crevice in the floor and sides of pen. One can of lye for every 30 to 40 gallons of hot water will make a cheap and effective cleaning solution. Later, the floors, walls and ceiling should be white-washed. Ground near the house, which has not been plowed or spaded, should be sprinkled with lime.

Pigs that farrow in a clean pen and are later placed on rotated pasture ground have at least an even chance to make the owner some money. If we are to be successful in controlling such troubles as worms and soremouth we must resort to sanitation and rotation rather than 'doping and pilling'. Pigs seem to have a greater desire to grow, as well as a greater ability to grow, in sanitary quarters and lots than in dirty houses and trodden lots left by the fall pigs." - J. B. Rice, Division of Swine Husbandry, U. of I.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

February 15, 1922.

No. 7

Crop Rotation and Soil Treatment. Their Influence on Yields and Cost of

Production. A larger margin between the price obtained for his products and the cost of producing them is the crying need of the farmer today. Obviously this margin may be enlarged in two ways, by obtaining a larger share of the consumers dollar, and by spending less in production. The former can be secured only thru organized effort while the latter is largely a matter of individual concern. The general reduction of the corn acreage and the growing of more legumes will assist materially in the attainment of the latter objective. The significance of this objective is perhaps appreciated far less than it should be.

A study of the data from the Morrow and Davenport plots at Urbana will emphasize this point of view. On these experimental plots various systems of farming are practiced which range from all corn, 1/2 corn, 1/3 corn and 1/4 corn-with and without legumes, limestone and rock phosphate. In the accompanying table are recorded the yields obtained for the 10 year period 1911-20 and the cost per bushel or ton to produce these yields, under a given set of conditions. The last column gives these results for the last four years of the 10 year period on treated land, a period in which sweet clover has been grown and used as a green manure between the wheat and corn crops.

Crop Yields and Cost of Production per bushel or ton on Corn Belt Land in Different Systems of Farming.

Crops	Rotation and Soil Treatment					
	Morrow Plots (1879-1920)			Davenport Plots (1895-1920)		
	Continuous corn no treatment	Corn, oats no treatment	Corn, oats clover no treatment	Corn, oats clover, wheat no treatment	Corn, oats clover, wheat Resid. Lime-Rock Phos.	Corn, oats, clover wheat resid. Lime Rock Phos. Sweet clover green manure.
	Av. 1911-20	1911-20	1911-20*	1911-20	1911-20	1917-20
Yield in Bushels or Tons per Acre						
Corn	27.3	37.2	43.1	55.6	69.4	83.3
Oats		38.1	45.2	50.5	68.1	74.0
Legumes†			1.98	2.05	2.46	3.17
wheat				26.0	41.3	46.4
Cost of Production per Bushel or Ton† (Factors Used, See p. 2)						
Corn	\$0.856	\$0.657	\$0.584	\$0.479	\$0.408	\$0.360
Oats		.513	0.452	0.417	0.345	0.323
Legumes†			11.09	10.76	9.22	7.47
wheat				0.931	0.660	0.609

*Corn 1910-19; clover 1909-18. †Clover and soybeans reduced to tons per acre.

Treating Oats for Smut - "The dry-sprinkle treatment of oats for smut has again shown itself to be the best. This is the formaldehyde treatment which was first recommended by the Illinois Agricultural Experiment Station in the spring of 1920. It consists of diluting one pint of commercial formaldehyde in 10 gallons of water and sprinkling this diluted solution over the oats at the rate of 1 pint to each bushel of grain. After sprinkling on this material the oats are thoroly and quickly mixed until every grain is slightly moist. They are then covered with a blanket or tarpaulin for two hours. At the end of the period they may be seeded immediately or if seeding is not to be done at once, they should be spread out to allow the formaldehyde gas to escape.

"This method of treating oats has completely controlled the smut during the six years it has been used, with the exception of a slight trace in two different seasons. The yield in bushels has been the greatest of any treatment four years out of the six. The average yield covering the entire period is a little more than 10 percent better than the untreated check. Another important advantage of this method of treatments is that the oats do not need drying before sowing. The quantity of liquid used is sufficient to facilitate thorough distribution of the formaldehyde through the grain, but not enough to wet the oats beyond what the hulls will absorb completely." - G. H. Dungan, Agronomy Dept. U. of I.

"Tea Waste as a Fertilizer. - County Advisers have requested information regarding the value of this material. A sample of tea waste, which is claimed to be the residue left after extracting tea leaves, has been analyzed and tested as to its rate of decomposition in soils. The sample as received contained 56% moisture. The following is the analysis of this material on a water-free basis: nitrogen, 5.7%, phosphorus .32%, sulfur .57%, calcium 3.776%, and magnesium 1.986%. The high percentages of these elements are possibly due in part to the removal of other materials from the leaves, thereby raising the percentage of those remaining.

Applications at the rate of 1 ton, 5 tons, and 10 tons of water-free material per acre (which would be equivalent to about 2, 10, and 20 tons of the material as received) were made to brown silt and gray silt loams in laboratory experiments. The 1 ton application gave a high nitrate production and was as valuable for this purpose as 5 and 10 ton applications. The rate of application of a material of this nature should depend upon the moisture content. This material was not tested in the presence of growing plants but, judging from its performance in the soil, it would not appear to be harmful." - A. L. Whiting, and T. E. Richmond, Division Soil Biology, U. of I.

"More Alfalfa was cut and more seeded during the 1921 season than any previous season and better results obtained. The sweet clover crop is important from a pasture standpoint and for seeding upon the black mixed loam soils. Sweet clover seeded with oats the past season yielded $1\frac{1}{2}$ tons of hay per acre after the oats had been cut. The fact that this crop grows so abundantly upon the drained soils makes it exceedingly valuable to the dairyman." - Gafke, McHenry Co.

"Increase Soys - We now have 38 men who have placed their orders for soybeans for planting next summer. Our orders now total 134 bushels. We are using Virginia and Wilson 5's for planting with corn for silage and to ward off chinch bugs. This increase in the use of the soys is due largely to result gotten from scattered demonstration fields thruout the county last year." - Tarble, Bond Co.

The Extension Messenger

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FEB 25 1922

A series of brief notes from the weekly reports of the Farm
Advisers, College and Experiment Station Workers and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

February 22, 1922.

No. 8

Spring wheat for Illinois

For its best development, spring wheat requires a cool climate. Roughly speaking, the thirty-five counties in northern Illinois can safely include spring wheat in their systems of farming. Counties north of a line drawn between the southern boundaries of Kankakee and Mercer counties, may be included in the primary spring wheat belt of Illinois. Counties north of a line drawn between the southern boundaries of Edgar and Pike counties and south of the line mentioned above have produced very satisfactory spring wheat for the last two years.

The cultural requirements of spring wheat are very much the same as for winter wheat. The preparation of fall-plowed land is the same for spring wheat as it would be for any other spring-sown small grain. If spring wheat is to be seeded on stalk land, it would be best to disk the land thoroly and seed them, rather than to delay seeding for very long in order to plow. For sometime the University of Illinois has been making a study on the time of planting spring wheat. The first seeding was made about March 6 and every 10 days thereafter until about the 10th of April. The average yield of Marquis for a period of years was 29 bushels for the first seeding, March 6, and 22 bushels for the last seeding of April 10. The quality of the wheat was best for the first seeding with 59 pounds per bushel to 54 pounds per bushel for the last seeding. The scab found in the last seeding was seven times as great as for the first seeding.

Variety trials have been conducted at DeKalb, in northern Illinois, and at Urbana, in central Illinois. As a two year average, Marquis has yielded 37 bushels, Blue Stem 29 bushels, Durum 30 bushels and Illinois No. 1, 29 bushels at DeKalb. For the northern section of the state Marquis was a very satisfactory variety. This is a smooth wheat. At Urbana as an average of 4 years Illinois No. 1 has yielded 29 bushels, Durum 24 bushels, Marquis 24 bushels, Red Fife 21 bushels.

One point should be emphasized particularly in the production of spring wheat, i.e., seed just as early as possible after all danger of severe freezing weather is over," - W. L. Burlison, Head of Agronomy Dept., U. of I.

"The Live Stock Shipping Association School held in Springfield was attended by a total of 66, including 49 shipping association managers and officers and 9 county advisers from the Springfield district.

The next shipping association school will be held at the Beardsley Hotel in Champaign on Tuesday, February 28. This meeting will include the shipping associations of the counties in the Champaign district." - W. F. Smith, Animal Husbandry Dept., U. of I.

After Results. "Due to interest aroused by the meetings on Farm Bureau Day three communities have held second meetings with an attendance of 200 farmers." - Brown Stark Co.

Cow Testing Associations are Getting Results - A recent report from one of the associations tells an interesting story about the highest producing herd in the association for the months of December and January. This same herd was tenth in production in the association during November. After the November test the unprofitable individuals, or boarders, in the herd were disposed of and the remaining animals were placed in a comfortable dairy barn and given a balanced ration of well prepared feeds. It is interesting to know that this herd was fed more dollars worth of feed per cow than any herd in the association and yet the cost of milk per hundred pounds was the lowest in the entire association. By disposing of the unprofitable cows and by taking care of the herd and feeding it properly the owner now is receiving a return above feed cost of \$250 a month.

In another association the tester found a dairyman who was buying and feeding a prepared dairy ration. When feeding this ration it cost \$1.38 to produce 100 pounds of milk. The tester talked the feeding question over with the owner and encouraged him to feed a home grown ration consisting of corn and cob meal, ground oats, and oil meal. The following month the herd of nine cows increased in production 1600 pounds of milk and the cost per hundred was only 92 cents.

The testers are in a position to render many services to the members of cow testing associations. Many of them are checking up on the cream separators and are locating some very serious losses.

Members of cow testing associations are taking the lead in the state among the dairymen who purchase high class registered bulls. As a rule they are the first ones to clean up their herds of tuberculosis and to establish good methods of sanitation. Four years ago when one of our associations was organized, with the exception of two herds, there were only four pure bred females in the association. When the association had been in operation three years there were more than 400 pure bred females.

The average production of cows in cow testing associations is at least 2000 pounds greater than the production of cows in the same county not in associations. This increase can be accounted for almost entirely by the services rendered thru cow testing associations. This increase, at a conservative estimate, is worth thousands of dollars to the dairymen." - C. S. Rhode. Dairy Dept., U. of I.

"Good Cows at Work." - The Annual Meeting of the Cow Testing Association was held recently. The program consisted of a noon-day luncheon, followed with reports from the cow tester, the treasurer and the secretary. The association finished the year's work with about \$65 in the treasury, and the tester's report showed remarkable progress. 225 cows finished the year's work. The milk average per cow was 7034 lbs.; this means the average per cow for the entire association was 1535 lbs. more than last year, 1920; and the average butter fat per cow was 290 lbs., an increase of 60 lbs. per cow over 1920. Figuring the entire increase of butter fat for the association at 50¢ per lb, we have a value of \$6750. During 1921, 58 unprofitable cows were sold from the association and 19 purebreds and 36 grades purchased. During 1920 only 3 herds produced over 300 lbs. of butter fat, while in 1921, 13 herds produced over 300 lbs. of butter fat, no herd going below 239 lbs. of butter fat in 1921. The highest cow in the association produced 13,233 lbs. of milk and 611 lbs. butter fat, equal to a total income of \$730, and for every dollars worth of feed given this cow she gave \$8 in return. The association was reorganized and is taking in new members on the basis of \$30 a year." - Gougler, Adams County.

The Present Urge for Keeping Farm Accounts - "'In time of peace prepare for war' is an old motto. The present period of low selling prices for the farmer suggests that an equally good slogan would have been, 'In time of war prepare for peace'. That this carries a real truth is shown by the severe need the farmer now feels for cutting his operating costs to the lowest possible figure. History records a long period of low prices after the war of 1812. A like period of depression followed the war of 1861-65. Similarly prices of farm products are now low following the world war. It seems probable that we may be facing another long period of fairly low prices for farm products.

The farmer must follow the example of the commercial and industrial enterprises. These business men are looking over their past records in order to learn the facts for their guidance in developing future policies. They are producing only that which the market wants and is willing to buy. They are cutting their operating costs to an absolute minimum. They are establishing better systems of record keeping to help meet the present depression period.

Farmers likewise must study their past records to learn the facts so they may know the business side of their operations. They must produce what the market will probably buy at a satisfactory price. The costs of this production must be cut to the lowest possible figure. Accurate record keeping will help to reduce costs.

If the farmer has not kept records on his own business during the previous period he should secure from his Agricultural College or Experiment Station the facts concerning farms that did keep such records. These facts will be helpful in guiding him during the coming years of low prices. He should also plan to keep his own records in the future. These will be the accurate guide for his new plans and policies. The farmer must have the facts for his business if he is to organize it intelligently." - W. J. Roth, Dept. of Farm Mgt., U. of I.

"The Four Day Horticultural Short Course held at New Burnside last week proved to be the most successful meeting of its kind ever held in this county. At the 11 sessions there was an average attendance of 146.

Over 150 men braved the ice and wind to watch a two hour pruning demonstration given by Prof. W. S. Brock. Intense interest was shown which reflected the importance of the fruit industry in southern Illinois. A register was kept where each person attending the school was asked to give his address and number of bearing trees and trees under-bearing age he represented. This record showed 157,500 bearing trees and 292,500 under bearing age, giving a total of 450,000 trees." - McCall, Johnson Co.

"White vs Yellow Corn for Sows and Pigs. - Following the experimental work of 1920 and 1921, in which it was found that pregnant and suckling sows and sucking pigs did equally well on white and yellow corn with tankage, that the weaned pigs from the white corn sows failed to attain a weight of 75 lbs. each when continued on their dam's ration, and that pigs started on a white corn and tankage ration at 70 lbs. are now approaching market weight at a somewhat slower rate than on a yellow corn and tankage ration, an experiment with four lots of 80 pigs is being conducted along this line at the station winter. The pigs in the different lots are being self-fed as follows: Lot 1, yellow corn and tankage; Lot 2, white corn (Iowa Silver Mine) and tankage; Lot 3, white corn (Iowa Silver Mine), tankage and ground alfalfa; Lot 4, white corn (Democat) and tankage." - Rice, Mitchel and Laible, An. Husb. Dept., U. of I.

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MAR 1 1922

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

March 1, 1922

No. 9

A Good Rotation Helps Insure the Farmer's Income

"The farmer should make every reasonable effort to insure his income. His business is subject to certain risks even when he has taken every precaution to eliminate the various hazards which are to some extent unavoidable in farming. Most farmers work on somewhat limited capital. Farming is also subject to the sharpest kind of competition. The farmer can ill-afford, therefore, to do without any important part of his income in any one year.

The seasonal hazards in crop production, and the fluctuations in the price of farm crops doubly emphasize the importance of diversified production. When the farmer grows a rotation including several crops with different physiological requirements, the chance of crop failure is materially reduced as compared with a one or two crop system. A fertile soil is often an important factor in helping crops to withstand unfavorable weather or disease and insect damage. In so far as the rotation is of assistance in increasing the fertility of the soil it helps insure profitable yields. If the farmers in a region should grow mainly corn and the price of this crop should be especially unfavorable some year, their income would be very much reduced. This, in fact, is just what happened to a large proportion of all farmers in east central Illinois during the present year. Even the farmers who grow corn and oats are little better off because oats made very poor yields in 1921, and the price was equally unfavorable. The farmers with corn, oats, wheat and clover had at least one cereal crop, i. e., wheat, which made a fair yield and brought a fair price. Their income was to some extent insured.

The farmers in the regions which produce practically nothing but cotton have had several very disastrous years since 1913. Just before the war they had a good crop but a very low price. Just after the war the price was still lower. In 1921 the yield was low and the price unfavorable, especially during the early part of the season. The somewhat more favorable price of cotton during recent months will likely result in an increased acreage in 1922, and with a normal yield will result again in lowering prices.

Thus we have a constant tendency in a one or two crop system to over-produce in periods when prices are high for the period when they will be low. When prices are low we reduce acreage and reduce production for the period when prices will likely again be more favorable. We gamble on the weather and bet that our neighbor will not be as wise as we in producing for future market on the basis of present prices.

The farmer with the good rotation is like the man who plans to get his income from bond investments. The farmer with the one or two crop system is like the man who invests all of his savings in common stock. Insurance of income depends on conservative farming just as it does on conservative investment in other lines of business.

Will you invest in a good rotation or speculate on a one crop system? --

W. F. Handschin

Culling Seed Corn - "The proper place to begin culling seed corn is in the field, in the early fall. However, field selection alone, even tho the ears be taken from standing stalks, is hardly sufficient, in itself. The farmer who expects to get an exceptionally high grade lot of seed should make a careful physical examination of this field selected seed and eliminate that which does not meet certain requirements. Corn to be examined should be spread out on a table in a well lighted room but not in direct sunlight. Artificial light is not satisfactory. The only safe light is daylight. Ear characters alone are not final proof of desirable seed. Certain types of ear, however, are undesirable and should be discarded without further waste of time.

A satisfactory procedure is, first to examine the corn for firmness and indentation. Very rough ears are frequently shuffy and weak. Ears to pass this test should have a medium to medium smooth indentation and should be heavy and solid or firm. Next examine the shanks. Shredded shanks, shanks which are dark brown and those which are brown with black bundles (or "Black spots") are objectionable. Ears which have good shanks are those which broke off smoothly and are silky white in appearance. The luster or polish of those ears which remain should be studied carefully. Performance of corn on the farm and its subsequent production in the field has shown that those ears which are bright, rather fresh and oily in appearance are in the great majority of cases the best seed ears. Ears which are dull or old looking and have no luster should be eliminated. The kernels of each of the ears which have successfully passed the above tests should now be carefully examined. Desirable kernels are those which are of medium depth, rather hard, horny or flinty in composition, thick, plump, bright and lustrous. Those ears which have starchy, narrow, thin, pointed, very deep or shallow kernels should be culled out.

The vitality of a sample of corn can only be ascertained by the germination test. Certain characters may be enumerated as evidences of vitality but must be understood to be only approximations. These kernels which are most likely to give strong, vigorous, healthy seedlings are clean, bright, oily or lustrous in appearance, have large plump germs, show little or no shrinking at the tip of the kernel near the cob and break out clean and bright, retaining the tip cap. Kernels with sunken, shriveled, or blistered and discolored germs and those which are pinched or pointed at the tip and showing space between kernels at the cob are undesirable." - J. C. Hackleman, Farm Crops Ext., Univ. of Ill.

Keep a Cash Record on the Farm - "A record of farm receipts and disbursements has values in addition to its statistical information. It may prevent the second payment of an account already settled. It may be helpful in sunary collections. It will assist in compiling income tax reports and in saving on cumulative exemption allowances. But by far its greatest value lies in the results of a study and analysis for the farm business.

When the record of disbursement or cash paid out is summarized and distributed under such headings as Permanent Improvements, Machinery, Labor, Feed, Crop Expense, Livestock Expense, etc. a helpful business analysis may be made. For instance, one may find his outlay of cash for feeds is very high. This suggests a ration including more home grown feeds to cut the livestock production costs. This is especially true of protein feeds which are always expensive when purchased on the market but relatively less costly when grown at home in the form of legumes.

Similarly, a study may be made of the other items of the farming business. Careful buying is necessary. Farmers are receiving less cash for their products than for several years and the maximum care is necessary in the spending of the income.

If you have not kept a cash record before, start one now. An ordinary cash book will do. The simple Farm Account Book of the University of Illinois is designed to serve this purpose." - W. J. Roth, Dept. of Farm Mgt., U. of I.

From Egg to Egg. "It is none too early to begin planning for the type of eggs we desire to have the pullets lay next fall. The reason is to be found in the fact that there is a strong tendency for a pullet to lay eggs which, in size, shape, and color, are very much like the egg from which she herself was hatched. This means that a little time and trouble taken now in the selection of eggs to be used for hatching will yield a good return in the shape of a higher value per dozen for eggs laid next fall and winter. Top prices will be paid for only the best grade of eggs. A discriminating buyer can afford to pay a higher price for eggs which run uniform thruout the entire case and do not have to be re-sorted for size and color. This sorting and grading can ordinarily be done more cheaply on the farm than anywhere else if a reasonable quantity of eggs is being marketed. If a white egg breed is kept incubate none but chalk white eggs. A few tinted eggs in a case will reduce the entire lot to a lower market grade at a lower value per dozen. If a brown egg breed is kept, strive for a uniform shade of brown, either light or dark. Avoid incubating eggs that have uneven, rough or thin shells. Do not use long, narrow eggs or short round eggs. Incubate no eggs that weigh less than two ounces each. Large eggs produce large chicks which grow rapidly and at maturity will themselves lay large eggs." - L. E. Card, Poultry Division, U. of I.

"New Spray Rings Organized - The best endorsement of the spray ring is the fact that they do succeed. Vermilion County comes along with another ring organized February 25, ordering as their equipment the three-cylinder Hardie outfit with 4 H. P. Cushman engine. This is the outfit which gave great satisfaction in Vermilion last year. Kelly reports three rings organized in Christian County. McLean has one ring completed, using a large capacity outfit belonging to one of the members composing the ring. The Stark County spray rings are still going strong with probably a third organized before this is printed. Other counties working on the idea are Warren, Marshall-Putnam, Vabash, Kane, Cook, Whiteside, JoDaviess, Grundy, and Kankakee. The three last have had more or less successful spray rings in operation for three years. The farm orchard has been a hard nut to crack but it is yielding." - W. S. Brock, Ext. Specialist in Horticulture.

"Stark County's Third Cooperative spray ring became a reality last night when men representing twelve farms met and all signed up. They elected officers, authorized the purchase of a small power outfit and the necessary insecticides to start the spraying, hired one of their own number to operate the outfit and subscribed the required amount of capital." - Brown, Stark Co.

"During the week one spray ring has shaped up into fairly good form. The plan is for a small company to provide a machine with one of the stockholders as operator. It is expected that a great deal of custom spraying can be done. At the present time in this vicinity such an arrangement is highly satisfactory and will do a great deal of good in the way of saving orchards and making fruit." - Price, Kendall County.

San Jose Scale Can be Controlled. Yet some growers have had failures. A study shows that they have (1) not used enough spray, (2) not covered tree thoroly and heavily, or (3) have used too weak a dilution. But learn the whole truth. Read Ill. Exp. Sta. Circular #252, 4 pages, by W. A. Ruth, just coming off the press. Advisers wishing a quantity should send orders at once to Miss A. C. Glover, College of Agriculture, Urbana.

A Conference of Animal Husbandry and Marketing Specialists is to be held at the Auditorium Hotel in Chicago March 2, 3, and 4.

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The Extension Messenger

A series of brief notes from the weekly reports of the Farm
Advisers, College and Experiment Station Workers and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

March 8, 1922.

No. 10

A Double Header in Egypt

"One crop each year is all that is expected from average farm land, but when southern Illinois land is made to produce two good crops in a single season, such a happening is worthy of considerable attention. On the Odin Experiment Field, wheat is grown in a four year rotation and sweet clover is seeded in the wheat, and the following year the sweet clover is harvested as a seed crop. In 1920, after the wheat was harvested, the sweet clover came on and made a good growth and on October 21 was cut for hay.

The following table shows the soil treatment, the wheat yields and the sweet clover hay yields for the season of 1920:

<u>Soil Treatment</u>	<u>Wheat Bushels</u>	<u>Sweet Clover Hay Lbs.</u>	<u>Value per Acre</u>
No soil treatment	3.6	0	\$ 4.50
Crop Residues	9.7	0	12.12
Residues-Limestone	21.3	2080	37.02
Residues-Lime-Phosphate	26.2	1990	42.70

The above table shows that this system certainly swells the income per acre. There may be some possibility of injuring the sweet clover crop for the following year, but in this case, no injury was apparent in 1921 on account of removal of the hay crop in the fall of 1920. There are cases when the removal of the fall hay crop has caused the sweet clover to heave out badly the following spring.

The following table shows the seed yields in 1921 following the removal of the fall hay crop, also the fall hay crop and the total value of the sweet clover crop:

<u>Soil Treatment</u>	<u>1920 Hay Lbs. per Acre</u>	<u>1921 Seed Bu. Per A.</u>	<u>Value per Acre.</u>
No soil treatment	0	0	0
Crop Residues	0	.4	\$2.40
Residues-Limestone	2080	1.9	21.80
Residues-Lime Phosphate	1990	2.5	24.95

Crop Values used, hay \$10; wheat \$1.25; sweet clover seed \$6.

There is still another value created by the sweet clover which will show up as an increase in the 1922 corn crop. When the increase in corn yield is credited to the sweet clover, it is by far the most profitable crop in the rotation, besides enabling two crops to be harvested in a single year from the same land. The clover chaff, after threshing was returned to the land." - H. J. Snider, In Charge of Experiment Fields, U. of I.

"The Percheron Stallion Wolfington, 147850 will be placed in Tazewell County for breeding service during the season of 1922. This stallion is the property of Mr. W. S. Corsa, Whitehall, Illinois. Tazewell County percheron breeders feel much elated over the fact that they are so fortunate as to be able to arrange this cooperative project with Mr. Corsa." - C. A. Atwood.

"Growing Corn in Southern Illinois. On the Ewing Experiment Field sweet clover has been turned under as a green manure crop for several years with remarkable results. This experiment field is located on typical southern Illinois farm land which responds very readily to limestone and when properly limed, sweet clover seldom fails on this land. On this field there has been only one failure of sweet clover in the ten years which it has been seeded. The following table shows the influence of the lime-sweet clover treatment on corn for the past four years along with the 1921 corn crop

	<u>4 yr. Average Bu.</u>	<u>1921 Bu.</u>
Lime-sweet clover turned under	23.8	20.2
Untreated land	7.3	3.2
Gain for lime-sweet clover	16.5	17.0

In 1921 when the sweet clover was turned under in April, the growth was 14 inches high and a good stand. In Bulletin 233, a growth of sweet clover similar to the above, when turned under, an analysis of the soil showed that it was equal to about ten tons of manure per acre." - C. J. Badger, U. of I. Experiment Fields.

"Seventeen-year cicada abundant in 1922. - Brood thirteen of the 17-year cicada will probably be abundant thruout the northern half of Illinois this year. Judging by old records, the southern limit of the infestation will be about along a line drawn from the northern edge of Hancock County diagonally across the state to the southern edge of Shelby and Clark Counties. Adults of this brood of the 17-year cicada will begin to appear during May and continue into June. They will be most abundant in the wooded sections. Persons setting orchards in the northern half of the state this year will do well to be on the watch for these insects and should they appear in large numbers protect the trees with cloth screening. When cicadas are abundant the egg punctures made by the females in the trunks of one or two year old orchard trees may be so numerous as to nearly kill or badly deform the trees. No spray or dust can be applied to the trees which will keep off these insects. No field crops are damaged, the only injury being due to the egg punctures in the twigs and small branches of trees." - W. P. Flint, State Entomologist, Natural History Survey.

"Publicity Helps Put Cow Testing Association Project Over in Hancock County. The community chairmen furnished the advisers a list of the dairymen in their communities. Articles on the necessity of high producing cows, the difference in the productive ability of cows, value of having records of performance on each cow, and the results that have been obtained in other cow testing associations were run in the farm bureau publication and in the local press. The dairymen were sent a series of three letters, the first explaining the work, the second calling them to a meeting to consider the Cow Testing Association work further, and the third to organize an association. Very little soliciting was done. Good dairy pictures were used to advantage in the publicity work. Articles and cuts were furnished by the Dairy Department." - C. S. Rhode, Dairy Dept., U. of I.

"The testing of corn for vigor and freedom from disease has proved to be a very popular service--too popular in fact, for we have over 150 men on our waiting list now. Our tester has revealed the very poor quality of seed corn and as a direct result of our work seven farmers have built, or are building, testers to test all their seed. Thetwo vocational ag classes are preparing to do similar testing." - Brown, Stark County.

Wheat Following Soybeans - "Judging from the inquiry, the emphasis laid on the value of soybeans is going to result in a decided increase in the acreage of same. We are cautioning the beginner so as to avoid reaction against the beans. Mr. W. G. Griffith, who had 20 acres of soybeans in 1920, found them of special benefit to the wheat in comparison to the wheat on corn stubble where the corn had been removed for the silo. The line between the two fields was noticeable thruout the growing of the wheat crop last season." - Fuller, Marshall-Putnam Co.

Cow Peas - "The cooperative marketing of cow peas is working to good advantage for the cow peas rowers of this county. Local buyers were paying from 75¢ to \$1.25 a bushel until this work started, but as soon as the Farm Bureau organized the growers on a cooperative plan, the local buyers boosted their price to \$1.50. The Farm Bureau has been able to sell about 5000 bushels for these growers at \$1.60 net and it appears now that there will be a larger demand than our growers can supply." - Isaacs, Mason County.

Additional Strawberry Prices - "As a further incentive for club members, who wish to enter the strawberry project on a large scale, prices of \$1.75 per 500 and \$3.50 per 1000 plants are now quoted. The prices on smaller quantities of 60 cents per 100 and \$1.10 per 200 plants still prevail. All orders should be in by April 1, preferably sooner." - H. F. Wolter, Boys' & Girls' Club Work, U. of I.

Changes Here and There in Illinois

Dr. G. N. Coffey, State Leader in Farm Advisory Work in Illinois, has announced his resignation to take effect April 15. Dr. Coffey will be Manager of the Wayne County Abstract Company at Wooster, Ohio, in which he is financially interested.

J. W. Whisenand, who has been Associate Adviser in Iroquois County, has been employed as Farm Adviser in Henry County and will take up his new position at Cambridge on March 6.

E. H. Walworth, who has been Adviser in Clark County, has been employed to succeed Sidney B. Smith as Adviser in Macon County and will move to Decatur as soon as possible. Mr. Smith has resigned in Macon to take up other work.

J. H. Checkley, previously Associate Adviser in Vermilion County, took up the work as Adviser in Logan County on March 1. He succeeds Mr. E. T. Ebersol.

C. W. Brown, who graduated in Agriculture at the U. of I. in 1916 and has been teaching Agriculture in the High School at Lincoln, Illinois, has been employed as Assistant Adviser in Vermilion County.

G. E. Metzger has resigned as Associate Adviser in Maccupin County to accept a position in the organization work of the Illinois Agricultural Association.

O. W. Holmes has resigned as Assistant Adviser in Henry County to take effect April 1 and will take up commercial work.

H. J. Rucker has resigned as Assistant Adviser in Morgan County and plans to teach Vocational Agriculture.

F. H. Kelley, who has been Assistant Adviser in Christian County, has accepted the position as Farm Adviser in Edwards County and will begin work at Albion on April 1. Mr. Kelley succeeds H. R. Pollock, who resigned February 1.

Keep Posted. 2500 Osage hedge posts are for sale by Mrs. V. E. North, 156 N. Greenwood Ave., Kankakee, Illinois.

Correction. "In Messenger of Jan. 25, page 3, line 1, the amount of corn raised in 1919 in the 10 leading hog counties of the state should have read 52 bu. instead of 41, for every hog on the farms on Jan. 1, 1920." - J. B. Rice.

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UNIVERSITY OF ILLINOIS

MAR 15 1922

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State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

March 15, 1922.

No. 11

Preparing the Seed Bed for Corn

"The essential conditions for a good seed bed for corn are:

1. A fairly compact yet sufficiently deep and loose soil to permit the free and vigorous development of the corn root system thruout the entire surface soil. There should be no hard clod

waste areas.

2. All crop residues including weeds and corn stalks well turned under.

3. Good contact between the furrow slice and the subsoil which will permit moisture to pass up from below.

4. Absolute freedom from weeds.

It makes no difference how these conditions are obtained so long as the methods employed are as economical of time and labor as is possible.

A method which may be very generally applied is as follows: For preparation in the spring, double disk the land to cut up corn stalks and other trash and to form a layer of pulverized soil which will be turned under next to the bottom of the furrow, then plow. The depth will depend upon the season of the year and character of soil. Fall plowing may well be deeper than spring plowing and heavy soils need to be broken deeper than light soils. In general, 5 to 7 or 8 inches is a satisfactory depth. Immediately after plowing if this is done in the spring, and before the soil becomes dry, pack the soil and pulverize the surface with the harrow or drag. Later, double disk and harrow again. Should planting be delayed by heavy rains after the land is prepared, it will be necessary to double disk and harrow again. Make sure at this time to destroy all weeds which have started. There is a trite but true saying that the best time to cultivate corn is before it is planted.

Never work the ground when wet. If this is done, there will be clods to roll all summer." - R. W. Stark, Crop Production, U. of I.

"We have held a series of community meetings with an average attendance of 90. At these meetings we have farmers bring samples of soil to be tested as well as 100 or 200 ears of seed corn which we divide into several trays of 10 ears each and judge them on the basis of freedom from corn root rot. A great deal of interest is shown toward the work. We cannot put over a proposition of every farmer testing his seed corn for corn root rot. The next best thing is to have the ears judged on the basis of utility score card minus germination. In working over these ears we make up a tray of the outstanding ears of utility type and another tray of the show type. We expect in several instances to shell one-half of each ear of the good ones and in the same manner the poor ears. A sample of the utility seed is to be planted in two rows of 80 rods in length alongside of the farmer's seed corn that has indications of corn root rot. Two other rows will be planted of Funk's disease-free seed. We firmly believe that it is possible for the farmer to get worth while increased yields and improved quality thru visual examination." - Fuller, Marshall-Putnam Co.

"1922 Lambs Good Proposition. For farmers who raise sheep there is no better motto than to 'Raise and market every lamb that is born alive and strong'. This is aiming high, but it is the kind of aiming that brings profits when it is combined with good care and feed. The sheep raisers have suffered losses but are recovering a little in advance of some other things and reports are indicative of an era of profits in lamb production. This should be particularly true if the necessary attention is given to securing growth, preventing disease and marketing to advantage.

"To grow rapidly make economical gains and be ready for market early, lambs must have a good supply of milk and to get this their dams need liberal feeding of equal parts of oats and corn and a legume hay until the regular pasture season. Silage may be used to replace some of the hay. Water and salt are necessities for the ewes and lambs. It is advisable to have the ewes drop their lambs in lambing pens about four feet square. Such a freshly bedded pen is the best place for the ewes and lambs until the lambs are three or four days old. About a half hour after the ewe lambs feel of her udder and help the lamb to nurse if it has not done so. It is well to disinfect the navel cord as this lessens the danger of infection. In cold weather protect the lamb so it will not be chilled. In case the lamb develops digestive disorders give it about a tablespoonful of castor oil.

"Lambs will eat grain when eight or ten days old and small racks for grain and hay should be placed in a 'creep'. A good mixture for young lambs is equal parts of ground corn, oats and bran and a little linseed oil meal. Gradually increase the proportion of corn so that when two or three months old the mixture will contain about twice as much corn as oats. Let the lambs have all the legume hay or clean grass they will eat. Forage crops produce rapid growth and internal parasites are held in check by their use. Lambs should be ready for market in three and one-half to five months after birth. If they are fat and were docked and castrated at two weeks of age they will bring top prices at marketing time." - W. G. Kammlade, Div. of Sheep Husbandry, U. of I.

All machinery should be properly repaired and fully equipped ready for field work some time in advance of the season that it is to be used. 90% or more of all farm operations are mechanical and since profits for the farmer will be obtained in the most part on narrow margins - the alert farmer will have his plow scoured, equipped with sharp shares and with eveners that will last thru the season. He will see that the teeth of the drag harrow are sharpened - see that the planter check wire has not rusted since a year ago. A few days work put in on the machinery now at this relatively slack time of the year, will mean a saving of an equal or even greater number of days in the season when delays are costly. A difference of four or five days in the planting of corn often means several bushels per acre loss. Throughout the season - inspect and oil all tools next to be used. If the repairs were taken care of in the winter or early spring, then there will be the cleaning of gummed oil and grease from bearings and seeing that everything will take oil and is in proper working order. Of course all parts that scour must be polished. This will be easy if they were well greased when put away. Give the machinery a little more attention this season and increase your margin of profit.- J. H. Hedgcock, Dept. of Farm Mechanics, U. of I.

Plans Vaccinating Rings - "I am talking to the Veterinarians as fast as I can see them concerning organizing vaccinating rings among farmers to vaccinate a number of herds a day with the idea of saving expense. Those with whom I have talked so far are in favor of the plan." - Robbins, DeWitt County.

"There is a wide call for pruning demonstrations, and the farmers are turning out well at these meetings. Apple and grape pruning instruction seems most in demand. Two spraying rings were recently started in Cook County, indicating a very healthy interest in general care of the orchards. The North Side ring will contain about 12 members owning 2500 trees; the South Side ring, about the same number of members with perhaps 1500 trees. Associate Adviser Day reports: 'Last year our demonstration to control smut on onion sets showed an increased yield of 1000%. At the present date I have orders for a little more than 100 gals. of formaline and for 50 tanks for applying it.'" - Heller, Cook Co.

"The demands for Farm Bureau work are constantly growing and it will take 6 men to meet the demands for work if the good roads continue. The attendance at our orchard demonstrations and community meetings have been very good and the interest exceedingly good. I have never known a time when the Farm Bureau activities have been more heartily endorsed than at the present." - Wise, Whiteside Co.

Sweet Clover Plus Lime - "Up to this time 40 of our members have ordered 3600 pounds of sweet clover seed. This is already quite an increase over the amount used last year and we expect that possibly almost twice that many members will sow sweet clover this year. The Anna Quarry Company has made a special price on limestone of \$1.25 in wagon lots and \$1.10 in carlots for Farm Bureau members. Quite a tonnage of limestone has been hauled since the Quarry opened up again last summer." - Doerschuk, Union Co.

Likes Soybeans - "One man whom we induced to use Virginia soybeans with his corn, reports that the chinch bugs killed the corn that was not mixed with the soybeans." - Tarble, Bond County.

"One car of cow peas has already been sold and half of a second car. We, no doubt, will have between three and four thousand acres of peas seeded in the county. The very fact that we have a lot of soybeans is no doubt going to result in a heavy seeding of beans also." - Eyman, Jersey Co.

Sweet Clover Looks Good - "A great deal of clover will be seeded in Grundy County this spring. The advancing price, however, of red clover is encouraging a larger seeding of sweet clover, the seed of which is much cheaper. Spring wheat will be seeded quite extensively again." - Longmire, Grundy Co.

O Rats! "One of our communities organized into two sections under two captains and had a rat killing contest. The losers to pay for supper for the winners. Five mice counted as one rat. The tails were to be saved and counted. The winners killed 1200 rats." - Creighton, White Co.

Let Them Read. "The adviser is making bulletin boards to be placed in the banks of the county to give publicity to Farm Bureau activities. This seems necessary because of the fact that the county now has but two weekly newspapers only one of which is used by the Bureau." - Eastman, Pulaski Co.

Mutual Insurance Company Successful - With \$27,000,000 of insurance in force in 25 counties in northern Illinois the Rockford Insurance Company has completed 25 years of service. The average cost to members has been 63¢ per \$1000 per year." - J. D. Eilsborrow, Asst. State Leader.

The Extension Messenger

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State Leader's Office

March 14 1922

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

March 22, 1922.

No. 12

Timeliness, An Important Factor in Planting Vegetables

"From now on the early cool season vegetables should be planted just as soon as the ground dries out sufficiently to be worked. However, do not plant all vegetables at this time, for altho early planting is very important in securing the highest quality and yields of the cool season vegetables, weather which is most favorable for their growth would be entirely too cool for the warm season vegetables.

Each kind of vegetable thrives best under certain climatic conditions.

Very often the home gardener fails entirely with certain vegetables because he plants all his garden vegetables at the same time, with the result that some kinds may have been started much too late, and other species too early. Very few home gardeners plant their cool season vegetables early enough for the best results, while others get inferior quality and poor yields by planting beans and melons and other warm season vegetables too early.

Therefore, in planting the garden the vegetables should be grouped according to their temperature requirements, and each group should be planted as the season advances at the time the climatic conditions most favorable to that group normally occur.

The garden should be planted so that the vegetables are planted in long rows, to facilitate cultivation, and should be grouped according to their temperature and cultural requirements. The planting can then commence on one side of the garden and proceed in an orderly fashion across the garden as each group is planted at the most timely season.

The following vegetables should be planted as early as the ground can be worked in the spring (usually between March 20th and April 1st in central Illinois): Leaf lettuce, garden cress, spinach, mustard, radishes, turnips, kohlrabi, peas, onions, both seed and sets, and early potatoes.

About two weeks later (April 10th to 15th) the following vegetables should be planted in the garden: beets, carrots, parsnips, parsley, salsify, Swiss Chard, New Zealand spinach, and wrinkled seeded peas; and the following plants can be transplanted to the garden: head lettuce, early cabbage, and cauliflower.

About a month after the first planting (that is about May 1st in central Illinois) the first planting should be made of the warm season crops: string beans and sweet corn.

After all danger of frost is past and the weather is warm and settled (about May 15 here) the following warm season crops should be planted: Lima beans, cucumbers, muskmelons, watermelons, squashes, pumpkins, and okra; and the following plants transplanted to the garden: tomatoes and peppers. A later planting of string beans and sweet corn could also be made at this time.

Eggplants and sweet potatoes could also be transplanted to the garden at this time, though it is usually better to wait two weeks more before setting them out.

If timely planting as above outlined is followed each vegetable will be given the best chance to produce maximum yields of best quality." - C. B. Sayre, Div. of Olericulture, U. of I.

The Pure Bred Sire and his Influence - "With financial conditions most pressing, with the dollar appearing almost as large as a wagon wheel, we as farmers begin to appreciate the value of a few dairy cows on the farm. We realize, too, that cows are not just cows. That there is a vast difference in the production of the different individuals, that those of good parentage whose ancestors gave a good account of themselves at the pail, make the highest returns.

The Ames Agricultural College has given us a splendid lesson in increasing production by improved breeding. They have found that pure bred sires when mated to scrub cows having a very low standard of production increased the production of their half breed daughters over that of their dams in many cases from 60 to 70 percent. This increase was obtained regardless of the breeds considered.

In our own herd the pure bred Holstein sire Enblagaard Tritonia Homestead, when mated to pure bred cows already possessing high average production increased the yield of his daughters over that of their dams 3907.7# milk and 160.65# butter fat.

This increase due to the sirs alone is about equal to the average production of the dairy cows in the United States.

Generally speaking we do not appreciate the value of a good sire. To prove this we need but go to the 1920 U. S. Census report for Illinois. According to this report there is only one pure bred sire to every 188 dairy females. This means that under the most favorable opportunity not more than one calf in five can be sired by a pure bred sire and under actual conditions the ratio is probably not one in ten.

With these facts before us our field of work ought to be clearly defined and we should not be satisfied until every calf born has not only one pure bred parent but a pure bred parent of real merit." - W. W. Yapf, Dairy Dept., U. of I.

Coming Out of the Shadows - "Seven herds of cattle were recently given the federal test for tuberculosis in Kane County. Out of a total of 206 head tested, 107 reacted. This accounts for the name 'Bad Lands' given to Northern Illinois by the Federal Vets. Nine other applications are in for federal test now and many others expect to test soon. One fine herd of 48 shorthorns had 39 reactors. This herd was built up from a purchase of 4 cows 10 years ago and is a good argument for starting out with tuberculosis free stock. This man has wasted 10 years of constructive breeding by starting his herd from 4 cows that had T. B., because no other stock except bulls has been added to the herd." - Richards, Kane Co.

Retest Clean - "The Farm Bureau assisted in the purchase of three carloads of Holstein cattle which were T. B. tested in Wisconsin. Upon retest every animal came thru clean which has given an added incentive to the T. B. clean-up work." - Gifke, McHenry County.

Want FyeMilk - "Mr. Ed. Gerber, who has the only herd around Apple River which has been tested for tuberculosis, has received within the last month a bigger demand than he has been able to supply for butter, cream and milk from his herd. This demand has come from the people in Apple River who saw the film in the Farm Bureau movie show on bovine tuberculosis." - Burns, JoDaviess Co.

Management of 'Alkali' Spots - The improvement of so-called 'alkali' spots in Illinois is a problem of growing importance because of the increasing extent of such areas. The appearance of new areas is frequently observed, and old areas grow by expanding in ever-widening circles. Not all areas locally called alkali really contain alkaline substances, but frequently owe their unproductiveness to other causes. The true alkali areas, however, are more frequently found in the black sandy soils or dark colored heavy silt loams. In nearly all cases, drainage is found to be deficient and in many of these adequate drainage provision largely solves the difficulty. Where the area is a low spot, tapping the lowest point is effective, but prevention of future difficulty is further secured by running a tile line around the borders of the area to offset flooding from the surrounding land. On the heavier soil types the development of unproductive spots is often accompanied by the appearance of a partly impervious layer in the subsurface, even where the topography is slightly sloping. The degree of success which could be secured by tiling these areas can not be predicted.

The fertility treatment needed can be determined in individual cases only by actual trial. Most frequently, however, the application of potassium salts, such as chloride or sulfate, at the rate of 200 pounds per acre has proved to be the best means of increasing crop yields. On the sandy types, this is due to remedying an actual deficiency in available potassium, since the soil supply is locked up in the sand grains which are too coarse to be readily attacked by soil solvents. On the heavier soils the benefits from potassium fertilization may be due in part to balancing the 'ration' of the plant, or rendering other nutrients physiologically available." - E. E. DeTurk, Div. of Soils, U. of I.

Melon Boosters Will Join Fruit Exchange - "The Annual Meeting of the Beardstown Melon Growers' Association which was organized by the Farm Bureau last April was held in Beardstown February 22. The year's business was closed up and the reports filed at the regular business meeting in the morning. In the afternoon Mr. A. O. Eckert of Belleville and C. E. Durst of the I. A. A. addressed about 75 melon growers from the vicinity of Beardstown. Following these addresses the men voted to reorganize the Melon Growers' Association. They elected a board of directors who are to proceed with plans whereby the organization may affiliate with the Illinois Fruit Exchange." - Dickenson, Cass Co.

Poultry and Egg Marketing - "We spent three days this week with Mr. E. F. Murphy in getting the four poultry and egg marketing associations started to doing business. After these associations began shipping eggs the local prices in these towns went up from 2 to 5 cents per dozen. Ordinarily, there is a difference of 8 cents or more per dozen between local prices and Chicago prices, now there is a difference of only $4\frac{1}{2}$ cents. At Oconee one member shipped a coop of live chickens by express to Chicago a few days ago and received net \$4.00 above home prices." - Belting, Shelby County.

Cheating the Express Poultry Handler - "The expressman at Metropolis asked the Secretary of the Farm Bureau why the hens were not laying this year. He said that he usually got from 8 to 10 eggs a day from the hens that were being shipped, but this year he was not getting any. The secretary told him that since the farm bureau started work, the farmers have learned to cull their poultry and were selling their culls, instead of their good layers." - McGhee, Massac Co.

The Extension Messenger

APR 1

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Advisers, College and Experiment Station Workers and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

March 29, 1928.

No. 13

Feeding Farm Work Horses and Mules

"In contradiction to the opinion sometimes expressed that corn is not good for horses and mules. Illinois experiments have shown that ground ear corn properly fed with legume roughages is a healthful and satisfactory feed. For the roughage part of the ration, no common feeds are likely to prove more desirable than good quality legume hays. Clover and alfalfa in particular may be grown with the assurance that they may be fed both safely and economically to farm work animals. Wherever they are produced in the corn belt, they may safely be made the basic roughages for horses and mules.

Ear corn and alfalfa hay alone are sufficient to maintain farm horses and mules doing a considerable amount of medium to hard work. However, even tho this is true, our experience further leads us to believe that more satisfactory rations may be made and perhaps more economical feeding practiced when part of the alfalfa or clover roughage is replaced with timothy hay, oat hay, oat straw, prairie hay, or corn stover. The grain ration may be improved in variety and bulk by replacing about 1/3 of the corn with oats. Judging from the excellent health and condition of the horses and mules used in the Illinois experiments there seems to be no need for condiments or commercial mixed feeds of any kind.

As a general rule feed approximately one pound of grain and one pound of roughage per 100 pounds of live weight per day, varying the amounts as conditions indicate by increasing the amount of grain when the animals are at hard work and decreasing the grain and increasing the roughage when they are doing light work or are idle." - J. L. Edmonds and W. F. Kennelade, Dept. of Animal Husbandry, U. of I.

"Soil Improvement on Southern Illinois Soils.- The 1921 oat yields on the West Salem (Edwards County) Experiment Field show some striking results for the various forms of soil treatment used. This field was begun in 1912, so this makes the 10th year for soil improvement on this land.

Oat Yields in Bushels per Acre

No soil treatment except crop rotation	19.5 bu.
Limestone alone	36.7 "
Limestone, sweet clover, residues	41.7 "
Limestone, rock phosphate, sweet clover, residues	54.1 "

In this experiment a 5 year rotation of wheat, corn, soybeans, oats, clover is used. Sweet clover is seeded as a catch crop in the wheat and the following spring growth is turned under for corn, so that there were two crops grown, previous to the oat crop, on the land where sweet clover was turned under. Limestone is applied at the rate of $2\frac{1}{2}$ tons per acre every 5 years, and rock phosphate at the rate of $1\frac{1}{4}$ tons per acre every 5 years." - H. J. Snider, In Charge of Experiment Fields.

"Fight the Chinch-bug with Soybeans" - During the past decade soybeans have been gaining rapidly in popularity on Illinois farms. One of the main reasons for the rapid increase in the acreage of this crop in this state is the fact that the soybean is perhaps the best all-round plant that can be grown in an area where chinch-bugs are destructively abundant. In the first place, it is entirely free from chinch-bug injury, as the bugs never feed upon it. In the second place, it is a crop that can be grown in corn, adding nitrogen to the soil, and perhaps just as important in a chinch-bug area, making a dense shade which is distasteful to the bugs and which will, to a certain extent, prevent their infesting fields where the beans are planted. Chinchbugs are present in more Illinois counties this spring than has been the case for over forty years. They are not as abundant in any one area as they have been during some past seasons, but there are many counties where, if the spring is dry, they will be a distinct factor in limiting the production of all the grass crops, and here it is advisable to grow all the soybeans possible." - W. P. Flint, State Entomologist, Natural History Survey.

"The Seed Exchange" proved fairly successful in that it brought a number of new men in to discuss new crops. Men who had never taken part in discussions before helped by telling their experience with soy beans and Democrat corn. I consider this of more value than any commercial significance the day may have had. This date was selected because it was also the monthly sales day put on by the Advertising Club of Lawrenceville." - Wheeler, Lawrence Co.

Cow Peas in Demand - "A considerable quantity of good cow pea seed was offered in our exchange on Seed Day. Our farmers failed to take advantage of this in a large way and a local dealer came into the exchange in the afternoon and bought up the lot. Now they are higher and many farmers who failed to attend the Seed Day meeting are asking where they can obtain seed at the old price." - Wheeler, Lawrence County.

Coop Marketing at its Best - "By securing the cooperation of the cow pea growers of this county, the Farm Bureau has been able to market approximately 10,000 bushels of cow peas at a profit of about 50¢ to Farm Bureau members. Most of these peas have been shipped direct to other Farm Bureaus and we feel that it is a good form of cooperative marketing." - Isaacs, Mason County.

Like Farmer Owned Company - "Two Members of our Farm Bureau purchased a carload of cattle from the Producers' Live Stock Commission Association of E. St. Louis and report the cattle were better than expected. One of the men wrote us that it is a good place to trade and he wants the world to know that he thinks it is a great thing for the farmersto have their own commission company." - Edwards County.

Just Going Into High Gear - "The Martinsville CooperativeShipping Association which was organized about the first of December has met some wonderfully strong competition. After two months the main local buyer is reported to have said, 'I'm going to break up that farmers' organization if I have to ship for nothing'. He hasn't broken it up yet for it is getting stronger every week by getting new men to ship and the old ones are willing to write testimonials about their shipments." - Walworth, Clark County.

Wanted - Feeder pigs weighing about 200 to 400 pounds in May or June. Will you have any for sale? If so, write D. M. Stoudt, Rosecoyd Farm, Hershey, Pa.

Our Children! "The Farm Bureau has been cooperating with Miss Emma DeWitt, the Home Adviser, in encouraging the use of milk recently in the schools. The school children in some of the schools were weighed and measured and at Ridge Farm the children were found to average 10% under weight. Twenty-seven children there are now receiving a pint of milk per day each. At Hoopeston all the children in the first grade are getting milk and all the children in the first three classes of the Roselawn School in Danville are being furnished with milk each day. The Farm Bureau feels that part of its purpose in life is to make life more worth living and by assisting the Home Bureau in this manner we think we have been doing our bit." - Lumbrick, Vermilion County.

Making the Most of an Opportunity. - "An all day meeting in one community this week reached a maximum number of people. The day started with a spraying and pruning demonstration on one farm followed by a culling demonstration on a neighboring farm; dinner served by ladies of Home Bureau in Community Hall was followed by further talk on poultry at joint meeting of Home and Farm Bureau. Later the meeting divided and the men discussed the "McLean County System of Hog Sanitation", "Chinch Bugs", and "Dairying". - Fahrnkopf, McLean County.

Tractor vs Horses - "One day was spent with Mr. Ridgway of the Chicago Tribune in calling on tractor users and some farmers who are not using tractors. All the users we interviewed stated that it would cost more this coming year to operate tractors than it would to do the same work with horses on account of fuel and oil being so high in price. Another statement made by all the users was that a farm should be at least 160 acres in size to make a tractor practical and the larger the acreage the more practical it could be made. Both users and non-users said they would not buy tractors this year even with the reduced prices." - Wise, Iroquois County.

"Fake poultry cullers have been operating in Jewell county Kansas, according to W. W. Houghton, county agent. Mr. Houghton says that the fakers go to a farmer and offer to cull his chickens for one cent per bird, provided he will sell the culls to them at the regular market price. Instead of removing the cull birds from the flock, Mr. Houghton says that they usually make it a point to remove the best layers. One woman lost 80 of her best hens and has not received an egg since. A neighbor found the faker was putting some of the best layers in the cull crate, so the culling was stopped." - Kans. Ext. News.

Orchards to the Front. "More interest is being taken in spraying fruit trees this year than ever. We will have three, possibly four cooperative spray rings in operation this season and besides this two of our men have leased several large orchards that have previously been neglected and will give them intensive care for the next five years. A large amount of ammonium sulphate will be used in the orchards this year for the first time." - Lumbrick, Vermilion County.

Loyalty - Recently a member of the Marion County Farm Bureau walked in 14 miles to attend the annual meeting in Salem." - Spitler, Asst. State Leader.

Value of Leaders. - "It becomes more and more apparent that one great need is community leaders. Wherever there is a live leader there are live members about him." - Heller, Cook County.

More Fun for Farmers - Discuss or debate at your next community meeting this question: "Resolved that farmers should observe Saturday afternoon as a holiday except during the busiest season." - J. D. Bilsborrow, Asst. State Leader.

The Extension Messenger

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Vol. V

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

No. 14

"Abortion occurs as a specific bacterial disease in swine. Pigs are born dead or in a weakened condition. Aborting sows have a grayish discharge which disappears in two or three weeks. The after-birth, feti and discharges of aborting sows should be burned, aborting animals isolated and the houses disinfected. A few sows may abort again or fail to conceive as the result of injury to the generative organs, though a majority regain their normal breeding functions. Infected sows capable of spreading abortion disease may farrow healthy litters. Boars become infected. In preventing the spread of the disease to healthy herds the purchase of infected breeding stock should be avoided. Unpasteurized milk, aborted calves or vaginal discharges of aborting cattle may endanger breeding swine. There are no reliable symptoms which differentiate infectious abortion in swine from abortion due to other causes. Infectious abortion in sows may be detected by blood tests. Consult your local veterinarian." - By Robert Graham, Div. Animal Pathology, U. of I.

"The livestock boat on the Illinois river made its first trip this week to St. Louis. There are three loading points in Pike County which constitutes practically the entire load. In spite of the fact that other commission companies of St. Louis had representatives here to bid for business on the initial trip nearly every animal on the boat was consigned to the Producers' Live Stock Commission Association. Despite repeated warnings the Producers' Association was not prepared to take care of such a large trade on the first trip and were somewhat slow in transporting the stock from the River Yards to the National Yards." - Kercher, Pike County.

"Peoria Commission Firm - The board of directors for the new farmer-owned and operated live stock commission firm at Peoria stock yards will hold its first meeting at Peoria on April 12. This board is to be made up and selected by the county farm bureaus in the territory about the market. The Illinois Agricultural Association is aiding in the establishment of the new firm." - I. A. A. Weekly News.

"When to Pump with an Electric Motor - 1. The advisability of running a pump with an electric motor depends upon the cost of the electricity and the amount of water to be pumped.

2. Where cheap electricity is obtainable from a transmission line, all pumping not taken care of by the windmill, is best done with the electric motor.

3. The water supply for the house is always furnished best by an electric motor. The amount pumped is relatively small, hence the total cost unimportant. The convenience and safety of such an arrangement for the housewife is worth all its costs.

4. Where electricity is generated on the farm and put thru a storage battery, it costs five times as much to pump with it as it does with the gas engine direct. With large volumes of water being used, as with a dairy herd, the gas engine is much to be preferred to 'home made electricity'". - C. A. Scholl, Dept. of Farm Mgt.

"Progress of the Soil Survey - At the close of the last field season, 80.6 percent of the state had been mapped in detail. Some revision work is necessary in certain counties which were mapped a number of years ago, and in some of the later counties minor changes will have to be made prior to publication, so that the statement made in the sentence above is not strictly true, though it does give as true a picture of the situation which now exists as it is possible to give.

Three field parties will start work as soon as weather and road conditions make field work possible. The northern party, under the leadership of O. I. Ellis, will continue the work in Henry County, the central party under W. P. Hiltabrand, will continue and soon complete Madison County, and then go to Greene, and the southern party, under E. A. Norton, will complete the work in Williamson County and then go to Clark." - R. S. Smith, In Charge of Soil Survey, U. of I.

A Winner - Our new method for testing for soil acidity is causing more interest in the soil and the need of limestone than anything yet found. We have placed displays of different kinds of soil, treated with limestone and untreated, in many public places such as banks, elevators, etc. We have also given the solution to well trained men in different communities for demonstrational purposes. Good results are coming from it." - Tarble, Bond County.

They Seem to Like the Idea - "The county's fifth co-operative spray ring was organized during the week. The three new rings (each comprising 11-12 farm orchards) are a direct result of the successful operation of the two rings started last year. Each ring has a power outfit and has hired or will hire a man to operate it. Spray materials are purchased co-operatively and each member of a ring pays for spraying according to the amount of materials and time used on his orchard. Each man, however, subscribes to the same amount of stock, \$30 per man this year." - Brown, Stark County.

Who said "Prune and Spray"? - Five pruning and spraying demonstrations were held this past week, at which there was considerable interest. We have assisted about 50 men in securing spray material and know of a few others that will take better care of their orchards this year." - Garrett, Douglas Co.

"Four orchard demonstrations were held, with an attendance of local men at each place who have small orchards for family use. Most of these men are using a barrel sprayer, costing \$16.65 complete without the barrel. We use oil barrels, which we get here for \$1.25. These do good work, and I believe are more practical and satisfactory than spraying rings." - Robbins, DeWitt County.

Don't Hide Your Light Under a Bushel - Put It Behind a Film or Slide! - "550 farm folks attended our annual Farm Bureau meeting. Altho the roads were almost impassable the free dinner and moving picture 'Spring Valley' drew the largest attendance of any of the Farm Bureau annual meetings ever held. Forty important accomplishments of the Farm Bureau were placed on slides and these were projected on a screen. Local pictures of Farm Bureau activities were also shown on slides. Each point was briefly discussed by the Farm Adviser. This method of presenting an annual report is far superior to reading the report. Members are able to remember more of it." - Kline, Boone County.

Let's Have Patrolled Roads - "The thaw took the bottom out of the roads in a good many places. Patrolmen started on the state aid road system on the 15th of March, and in two days had all roads passable, which leaves the balance of the season for putting on polish." - Brooks, LaSalle County.

When Does a Pig Cease to be a Pig - Last week's item at bottom of page 2 was strangely contorted. It should have read "Wanted 200 to 400 feeder pigs, weighing 30 to 35 pounds, about May or June, etc. - D. M. Stoudt, Rosecooyl Farm, Hershey, Pa." - Don't kid the P. D. Blame the Editor!

Mistakes

When a Plumber makes a mistake, he charges twice for it.
When a Lawyer makes a mistake, it is just what he wanted,
because he has a chance to try the case all over again.
When a Doctor makes a mistake, he buries it.
When a Judge makes a mistake, it becomes the law of the land.
When a Preacher makes a mistake, nobody knows the difference.
When an Electrician makes a mistake, he blames it on induction;
nobody knows what that means.
When a Printer makes a mistake, he gets the "devil".
But when an Editor makes a mistake - GOOD NIGHT!!!
--Swipte.

We are never too Old to go to School - "The School of Instruction prior to the community meetings for the purpose of developing a Program of Work was a very live meeting. The members of our Executive Committee who were lukewarm towards the matter are now sold on the project. Vaniman is a 'cracker jack' at this work." - Kendall, Morgan County.

"Co-op' Eggs Paid Highest - Egg shipments of the last two weeks from the six cooperative associations in Illinois started by the I. A. A. and county farm bureaus have received from one-half to one cent above the top price on the Chicago market because of superior quality and grading. Requests have been made at Chicago for larger quantities of eggs from the cooperative associations and it was stated that from one to two cents above top market quotations would be paid if larger quantities could be had. The six associations in the state are now marketing 9000 dozens of eggs a week. The association which has done the largest amount of business has reduced its operating expenses to 1 $\frac{1}{4}$ ¢ a dozen to include grading candling, receiving and packing." - I. A. A. Weekly News.

"Income Tax not Payable on Smith-Lever Funds - Several inquiries from farm and home advisers reveal the information that occasionally Revenue Officers do not understand that Smith-Lever funds are exempt from taxation. Here is the exact citation. Next year look it up in the Messenger if you have any trouble: Regulations 62, Article 88, relating to the Income Tax and War Profits and Excess Profits Tax under the Revenue Act of 1921, Treasury Dept., U. S. Internal Revenue. This article says in part: 'Compensation of State Officers and Employees. Compensation paid its officers and employees by a State or political subdivision thereof***is not taxable***Employees of universities receiving salaries paid in part or in whole from funds available under the Smith-Lever Act of May 8, 1914*** are not required to return as taxable income the salaries so received.' This article also makes it clear that funds received from the State Department of Agriculture are not taxable." - R. D. Briem.

"If you want bulletins from the U. S. Department of Agriculture send your order to the State Extension Director's office. This applies on any bulletin of which you wish 25 copies or more. Less than 25 copies of any number may be ordered direct. The U. S. Department of Agriculture will not fill orders for Farmers' Bulletins, Department Circulars, or any other publications unless sent thru the state office at Urbana, except as noted above. Send your orders here." - R. D. Briem.

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The Extension Messenger

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APR 13 1922

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

April 12, 1922

No. 15

Time of Planting Corn
as Determined by the
Character of Seed Used

"The size of the oak leaves and the emergence of hedge foliage are not the only factors to consider in determining the time to plant corn. Much depends upon the type of seed to be used. Strong, vigorous seed that

is relatively free of disease can withstand cold wet weather conditions that would prove harmful to the vitality of seed of a less hardy character. In last year's experiment the best stand from moderately diseased seed was obtained when the corn was planted on May 20 or later. In the case of nearly disease-free seed, slightly better stands were obtained when seeded on May 10 or before. When moderately diseased corn was planted on May 2, 39 percent of the plants were weak, whereas only 6 percent of the plants from nearly disease-free corn planted at the same date were classed as weak. The production, however, of corn from both types of seed was greater when planting was done on May 10 or before. After this date the proportion of sound corn was less in both cases, but it was particularly low in the case of the corn from moderately diseased seed. It is important then that corn planting be done just as early as the strength of seed will allow.

Judging from the results of these experiments it would seem that high class seed corn which possesses strong vigor and relative freedom from disease should be planted slightly in advance of the usually accepted time for corn planting. Seed lacking in the qualities of vigor and health should not be planted until the normal corn planting time has arrived." - Geo. H. Dungan, Crop Production, U. of I.

"Should Dairy Breeds Be Crossed?" - 'No', is the usual answer advanced by those accustomed to giving advice. The explanation offered is that while the first result may be satisfactory the later generations 'break up', one cannot tell what will come of it, but in general the results will be disastrous. Under the present state of supply and demand for pure bred dairy cows it is probably not desirable to cross for economic reasons. But regarding the disastrous results coming from the 'breaking up' process after the first generation, it is not so clear that crossing is altogether bad. The Dairy Department has a herd of cows, a cross between the Holstein and Guernsey breeds, in which the second generation is now coming into milk. In milking qualities the first cross appears exactly half way between the parents as to percentage fat content of the milk and slightly above an average in amount of milk yielded. The second generation appears almost exactly like their parents (that is again intermediate between the two breeds first crossed) in fat percentage and materially higher in milk yield. The predicted 'breaking up' process and ruination does not seem to be developing." - W. L. Gaines, Div. Dairy Production, U. of I.

"To use keeping a dog and doing the barking yourself." -

"The Rainy Day on the Farm - One of the most important problems in farm management is the planning of the work so that every operation which is not definitely fixed as to time or season may be fitted in between the peak load periods when every minute may be of special importance in producing or saving a crop.

Most of the work connected with the production of crops and livestock cannot be shifted over any great periods of time without materially reducing production. There is, however, a large amount of work which can be shifted and which should be performed when there is no fixed crop and livestock work to be done. The rainy day presents an excellent opportunity for doing some of this work. There is a great variety of tasks which can be done under shelter and which should as nearly as is possible, be performed while it is raining. Repairing harness, sharpening and repairing tools, repairing the interior of buildings, and tipping and shelling seed corn are a few of the more important of these jobs.

Immediately following the rain, building and repairing fences, cleaning up around the premises, trimming hedge, cutting weeds, and repairing buildings are jobs that are conveniently performed. In fact, such tasks as trimming hedge, cutting weeds, and digging post holes are more easily performed at this time than at any other.

It is necessary to have some device to assist one in thinking of these jobs. Some farmers carry a small pocket note book in which they jot down the tasks to be performed on the next rainy day or days. By consulting this note book the farmer can quickly plan the work when the rainy day arrives.

The most successful farmers give considerable thought to the planning of this work; not because of its own importance but because of the necessity of keeping it out of the way of the fixed crop and livestock work.

The farmer who does not take advantage of the rainy day to perform these jobs soon finds them demanding attention when he should be devoting his entire time to more important work." - C. A. Bonnen, Asst. in Farm Organization & Management, U. of I.

"Springtime should be clean-up time around the farm home was well as in the fields. The field fences are fixed and the fence row is usually cleaned out, but the yards and buildings are too often neglected.

Tidiness has a good influence and more is usually accomplished under pleasant surroundings than unpleasant. Partly broken down gates and poor fences result in loss of time and inefficiency. Unpainted buildings look shabby and depreciate rapidly. Neglect means loss to the owner. The farmer who wishes to sell his farm will make a mistake not to make things spick and span. Things can be gotten into shape with relatively little expense. First, remove the dirt and rubbish collected, repair fences, gates, walks, and buildings and then use a little paint or whitewash if you would get the best price for your place. If you do not care to sell, it will make you just a little prouder of your farm to have things painted up, and you will avoid loss due to greater depreciation.

Along with the spring clean-up, plant a few flowers and shrubs, they will repay much more than the cost, in the cheer and happiness added to the home." - E. W. Lehman, Dept. of Farm Mechanics, U. of I.

"Round Worms in Pigs - Now is the time to begin thinking of ways to keep the pig crop free from worms. The little pigs should be kept out of old infected hog lots and clean pasture should be provided for them. A proper rotation of forage crops will lessen the losses from the pig's arch enemy, the common round worm." - R. J. Laible, Swine Division, U. of I.

Sunlight destroys germs, let it stream in.

"Meditations of a Scrub Bull - They call me a scrub bull; yet I have a pedigree. I was sired by a scrub, dam'd by a scrub, and am treated like a scrub, and I sometimes think that I am owned by a scrub. My tribe outnumbers pure-bred bulls four to one. Just why I should exist is a mystery even to me. Yet, I am not responsible for it. I was brought into the world without my consent and I shall probably leave it against my will. In the meantime I am getting the most vicious publicity, principally thru the farm press. They say I am a renegade and an abomination, and should be exterminated. Dairymen passing my owner's farm look at me with contempt; even the cows show me no respect. My own daughters seem to hold a grudge against me, saying that I am responsible for their low production. I cannot argue the point, for it is true. But what can I do? My owner must think a lot of me personally, or he would not continue to support me, knowing that I can never improve the quality of his herd or be a source of profit to him. These cow testing associations are certainly showing me up, and I can see the handwriting on the wall. My tribe is doomed! Under the keen competition and low prices of good purebred bulls there will soon be no place on the farm for me. So, Goodbye. I may be gone but not forgotten, for I have retarded the development of the dairy industry for many years." - Univ. of Nebraska, Ext. Notes.

"The first car of hogs shipped by our county shipping association brought satisfactory returns. Sold for \$11.30 or within 5¢ of top of market and netted \$10.70. Entire marketing cost was only 60.7¢ per 100 lbs. One man made \$32 on his hogs over the price he had offered them for locally." - Eastman, Pulaski Co.

Good Livestock Insurance Plan - "The managers of the shipping associations in Henry County find where an association is starting, one-half of 1% on the net proceeds is a desirable sinking and insurance fund. It may be later cut to one-fourth of 1%." - Whisenand, Henry Co.

"A sheep shearing ring was organized. These rings proved very satisfactory. The shearer has a power equipment mounted on a Ford truck so he can move from place to place quickly. Neighbors drive their sheep to one place, gathering about 100 at a place, that being the number the shearer can handle each day. Two shearing rings were organized last year and will be reorganized this year." - Richards, Kane Co.

Another Market Perhaps - "Considerable interest in the establishing of a farmers' market in Rockford is manifested and it seems probable that the project will receive approval at annual meeting." - Keltner, Winnebago County.

The Kankakee Farmers' Market is still going strong, and two days a week at that.

Peach trees are in bad condition in some orchards from the effect of the borers where the trees were not carefully inspected last fall. In one orchard we found over 50 borers in one tree. In this particular orchard they are going to begin digging out the borers at once. I believe it would be a good recommendation for a good many orchard men during days when they cannot spray." - Blackburn, Marion County.

Second Annual University Judging Contest - Farm boys, high school students, and University "Ag" students will compete in a livestock judging contest at Urbana on April 22. Prizes and trophies are offered by breed associations. The Hoof and Horn Club is in charge. - C.E.Gates, 502 E. John St., Champaign is chairman.

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UNIVERSITY OF ILLINOIS URBANA, ILLINOIS

Vol. V

April 19, 1922.

No. 16

"From Calves to Baby Beeves - Reports from several sources indicate an increase in the number of calves that are being fattened for baby beef club contests this year. To develop a calf into a well finished baby beef in time for the fall fairs it is necessary to put considerable thought on its feeding and care.

Calves should be brought to a full feed of grain as soon as possible without throwing them off feed. The amount of feed may be gradually increased according to their appetites.

A mixture of equal parts of ground corn, ground oats and bran or alfalfa meal by weight, supplemented with one half to one pound of cottonseed or oil meal daily per head is a ration that will give good results. If calves are fed in dry lot, bright clover or alfalfa hay should be provided. Where calves have access to good pasture, the hay is not necessary.

Another grain mixture which may be used with success is made up of shelled corn, one bushel; whole oats, one-third to one-half bushel; and oil meal 10 pounds. A mixture of shelled corn and oil meal fed at the rate of 5 to 6 parts of corn to one part oil meal may also be recommended. Fresh water should be available at all times.

The calves should be kept comfortable at all times by having provided a cool place during the hottest part of the day and by being kept free from flies. The latter can be accomplished by keeping the animal in a dark stall or protected with a blanket made of gunny sacks. This will also help the appearance of the coat of hair." - W. H. Smith, Animal Husbandry Dept., U. of I.

"Pig Pasture. - In central Illinois, alfalfa, clover, and rape excel all other forage crops for pigs. Some sections of the state may use other crops to better advantage because these crops are not adapted to all soils. However, in all sections hog raisers can afford to arrange a rotation of forage crops which will furnish succulent growing pasture from early spring till late fall. Such a plan can utilize lots around buildings and rough ground which would otherwise be wasted. The distribution of manure is facilitated, and disease and parasite losses are reduced to the minimum. Grain, labor, and nitrogenous supplements are saved, and most important of all, growth and thrift are promoted by the intelligent use of forage crops.

Farmers should endeavor to have succulent forage available for hog pasture when the blue grass begins to dry up in the early summer. If clover and alfalfa are not available, rape fills the place excellently where it can be grown successfully. Sown two or three weeks before corn planting time, rape should have sufficient growth by the middle of June to carry 10 to 20 pigs per acre for the rest of the summer. By the time rape is gone, the fall rains will have rejuvenated the bluegrass and the stubblefields, which will carry the hogs until fall sown rye is available. A well planned rotation of forage crops is both profitable and practical for the hog man." - R. J. Laible, Swine Division, U. of I.

"Boosting the Corn Yields - The Illinois system of permanent soil fertility has very materially increased corn yields in various sections of the state. This system includes crop rotation and the addition to the soil of organic matter, rock phosphate and limestone when needed. The following table summarizes the results of soil treatment on 24 different experiment fields for the past 10 years on the three general soil areas of the state.

<u>Kind of Soil</u>	<u>No treatment</u> (Bu. per Acre)	<u>Ill. System</u> (Bu. per Acre)
Soils representative of central and northern Illinois	40.0	54.5
Soils representative of prairie region of southern Ill.	14.5	33.5
Soils representative of rolling and hill region of So. Ill.	20.5	36.2

In the above system the cost of the limestone and rock phosphate need not exceed \$3.00 per acre per year. The supply of organic matter, either as stable manure, yard manure, green manure crops, or crop residues, is a by-product of good farming, and to properly utilize this by-product adds but little to the cost of soil treatment. The gain from such a system of soil treatment greatly exceeds the cost and the longer the system is in use the greater the profit." - H. J. Snider, Soil Exp. Fields, U. of I.

"Suggestions for Using Illinois Soil Reports - The Illinois Soil Reports, of which there are now 21 available, contain a wealth of information for the farmer, for whose use they are primarily intended, and also for all those interested in farming, either directly or indirectly. Their full value can be realized only after careful study and their usefulness will increase as time goes on as more is learned about the peculiar fertilizer requirements of the various soil types and their crop adaptations.

Great care is used in the preparation of these reports and while clearness is not sacrificed for the sake of brevity, yet the concise manner in which the materials presented makes more than a casual reading necessary to get a good understanding of all they contain. The following suggestions, which apply particularly to the reports for Peoria, Bureau, and McHenry counties and all subsequent reports, are made in the hope that they may be of some value in helping the reader get their full value.

First, look thru the table of contents to get a clear idea of the plan and scope of the report.

Second, read as far as 'Invoice of Plant Food', using the drainage and soil maps as an aid in getting a good mental picture of the formation of the soils. In this connection, study the soil map until it ceases to be a complex jumble of colors and figures and becomes a clear picture of soil types.

Third, read the description of the soil types, paying particular attention to those on your own farm.

Fourth, turn to the tables giving the chemical analysis of the soil types and note the relative abundance of the elements of plant food in the various types. This will give a good idea of the wearing qualities of the soil, but should not be considered a sufficient guide for fertilizer practice.

Fifth, study the Experiment Field data as found in the Supplement. The information furnished by these fields is the best available for determining what fertilizer treatment can most profitably be used.

Sixth, study the few pages on 'Principles of Soil Fertility' as found in the Appendix, to determine whether the plan you have decided on will keep your soil as rich as it now is, or better still, gradually make it richer.

Seventh, preserve your soil report as carefully as you do your choicest book, it will become more and more valuable to you." - R. S. Smith, in Charge of Soil Survey, U. of I.

Open To You! A new plan for receiving visitors or delegations to the Agricultural College and the Experiment Station this summer, has just been announced. Instead of the special "County Days" heretofore used, there will be arranged a complete "Open House" from June 19 to 24 inclusive, when any and all visitors may come and see all that is "Agricultural" from beginning to end. The experimenters and faculty will be in strategic places to explain all the work each day. Each visitor may, under this plan, spend as much time as he wishes studying his particular hobby. The details of plan will be in charge of W. H. Young, Ag. College, Urbana, Illinois.

By the Color Ye Shall Know - "At a recent soil meeting one farmer brought a sample of soil taken from a field that was growing alfalfa that had been limed. The cyanate test showed it to be sweet. Across the fence without lime where alfalfa had failed the test showed that the soil was badly deficient in limestone. This soil test is proving very satisfactory." - Fuller, Marshall-Putnam Co.

Limestone Prizes - "125 tons of limestone are being shipped to 24 farmers in Knox County. This limestone was donated and awarded as prizes in the two sectional shows recently held. The sectional shows were preceded by local shows. The attendance and response at these meetings was exceedingly good." - Bracker, Knox Co.

"Our Farm Boys' Short Course will be held again this year. We have 31 registrations to date and expect that other enrollments will come in so that our total number will be between 40 and 50. We have to date boys coming from 10 of our 17 townships. Several good farmers have volunteered to help us in giving the boys instruction in agriculture. The boys vary in age from 12 to 18; many of them being in the 8th grade." - Baumeister, Stephenson Co.

Oust T. B. Milk - "Benton published a new ordinance last week which requires all milk and cream sold in the city limits to come from tuberculin free herds. Dairymen who didn't care to sign up for accredited herd plan last year are now required to stand all the expense and loss themselves." - deWerff, Franklin Co.

"Eight co-operative spray rings and two commercial outfits will be operating power outfits this season in Stark County. In addition there are four groups of farmers using good hand power outfits this year for the first time. The seven co-operatively purchased power sprayers will spray 84 farm orchards." - Brown, Stark Co.

"Two small ads regarding Democrat seed corn in papers having a general circulation have brought many inquiries and have indicated a rather wide spread interest in this variety. Requests for prices and information have come from Illinois, Indiana, Kentucky, Tennessee, Oklahoma, Kansas, and Michigan. A good many orders have been received." - McWilliams, Randolph Co.

Best Farming Methods in Vogue - "It seems to me farmers are beginning to realize that only the best sort of farming pays under present price conditions. Never before was there so much spraying of fruit trees as this spring. More seed potatoes were treated for disease this year than ever before and farmers seem to be especially anxious to get northern grown certified seed. There will be more legume crops grown than ever before. This is especially noticeable with sweet clover and soybeans. We ordered 2200 pounds of sweet clover seed in one day." - Tate, Monroe County.

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Don't let the wet weather persuade you to "slap in" the crop. Do it well.

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APR 27 1922

The Extension Messenger

A series of brief notes from the weekly reports of the Farm
Advisers, College and Experiment Station Workers and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

April 26, 1922

No. 17

Do Not Plant Corn Too Deep.

"When a grain of corn germinates, a root starts out downward from the tip of the kernel. Shortly afterwards the stem pushes out above. About the same time one or more additional tempo-

rary roots develop from the germ. These roots are of importance in supplying nourishment for the plant only a short time. When the plant is a few days old a cluster of permanent roots begin to form. These grow out from the joints of the stalk about an inch below the surface of the soil. It seems to make little difference whether the corn is planted one inch or five or six inches deep, these permanent roots come out at about the same depth below the surface. These roots rapidly extend outward and downward. The most extensive development of the root system in the early stages is within the first few inches of the surface. Here is where the most available plant food is to be found and they reach out instinctively to that portion of their environment which will yield them the easiest living. Later the roots extend much deeper until at maturity they may under favorable conditions fill the soil to a depth of 3 or 4 feet or even deeper.

It seems, therefore, that the plant regulates the depth of its root system regardless of the depth of planting.

Experiments on depth of planting conducted by the Illinois, Indiana and Ohio experiment stations show that the greatest yields were obtained by planting the corn one to two inches deep. In light, open soils or in dry soil the corn may be planted deeper. In heavy or wet soils shallow planting should be practiced, otherwise the plantlets may not be able to force their way up to the surface. In any soil, the corn need be planted only deep enough to insure rapid vigorous germination. Any greater depth of planting requires the consumption of an unnecessarily large amount of plant food stored in the kernel before the plantlet reaches the surface." - R. W. Stark, Crop Production, U. of I.

Prepare Good Seed Bed for Soybeans - Proper seed bed preparation is perhaps the most important single factor in the successful production of soybeans. Upon the thoroughness of this operation will depend quite largely the uniformity of germination, the resulting stand or thickness of the beans, the amount of competing weeds and weed grasses and finally the yield and quality of the crop.

An excellent seed bed can be prepared by plowing the land as soon now as possible and keeping the soil worked down until seeding time thus holding the moisture near the surface, making shallow seeding possible. The fact that we have had several weeks of rains is no assurance that we will have abundant moisture thruout the season. A seed bed which is prepared as soon as the soil will permit working - not when it is too wet - will be in the best condition to withstand drouth.

Proper and thorough preparation of the seed bed permits of shallow seeding. Land that has been worked down frequently following plowing and before seeding will be more loose and friable, will have more moisture near the surface and therefore will make it possible to cover the seed shallow and uniformly. This always means a more uniform stand and a more satisfactory crop.

The fact that thousands of farmers growing soybeans for the first time this year, have encountered very unseasonable weather and are behind with their work is likely to cause them to slight seed bed preparation. The farmer who has grown them before is not likely to overlook this step even tho he is rushed with other work. Too much attention cannot be given the preparation of the seed bed for soys this year." - J. C. Hackleman, Farm Crops Extension, U. of I.

"Getting the Mower Ready for the Season's Work - A lack of knowledge in the care and repair of mowers has resulted in many of these machines being discarded several years too soon. Heavy draft is caused by poor lubrication, dull sickle or non-alignment of cutter bar. The power from the pitman should be delivered in a straight line to the sickle. A string stretched along the center of the top of the pitman and extending out to the end of the cutter bar, should strike the same parts of the cutter bar for its entire length. If front end of cutter bar is back out of line the pitman delivers the power to the sickle head at an angle, resulting in loss of power. See that yoke pins are tight and consult instruction book as to how to re-align cutter bar. Side draft is caused by improper adjustment of the cutter bar parts, resulting in the dragging of the stems instead of cutting them off. The mower cuts like a pair of shears, the sickle acts as one blade and the ledger plate in the guard acts as other blade. These two surfaces are held close to each other by the clip which presses down on the top of the sickle. If this clip becomes bent up or worn the grass will pull in between the two cutting surfaces. Bend down clip by striking the top of it lightly with a hammer, testing each time to see that the sickle moves freely. The backward pressure of the sickle when cutting is taken care of by the wearing plate. This plate is fastened by the clip bolts and is held in against the back of the sickle rib. The plate has slotted holes and should be kept adjusted up against the sickle rib. Sight down the guards about two inches back from the points and see that they are in line. A guard bent down allows the grass to drag under the sickle at that point. A guard bent up will lift the sickle off the guards on either side giving two places where the grass is not cut. To line up the guards strike with a hammer about two inches back from the point. Sickle breaking is caused by up and down wear under the clip at the rear of the cutter bar. This wear allows sickle head to bend slightly on each stroke which in time causes it to break. To take up this wear remove shims from under the rear clips. Sickle knives must center in the guards at the out and in stroke of the pitman. Center knives by adjusting the length of the pitman or the length of the bar that is parallel with the pitman and holds the yoke. If the sickle is kept sharp and the cutter bar parts properly adjusted the mower will give service for a long time." - R. I. Shawl, Dept. of Farm Mechanics, U. of I.

Davenport Round-Up - Illinois will pay homage to Dean Eugene Davenport of the College of Agriculture at the first annual Davenport Round-Up Friday night, May 5. It is to be a real he-man western round-up with bronco busting, steer riding and roping, prairie schooners, and Indian fights. Dean Davenport, President David Kinley, and George Huff are the speakers. Every one is invited and urged to come to honor the greatest agricultural leader the world has ever produced. Tickets 55¢. Davenport Round-Up Committee, Urbana, Illinois.

Broody Hen Tales - "On farms where eggs are hatched with incubators or where day-old chicks are purchased each season there is no use for the broody hen. She becomes more or less of a nuisance and is at best an intermittent loafer. Whenever found, broody hens should be removed from the nests and placed in a slat-bottom or wire-bottom coop with no nesting material. They should be supplied with

water and dry mash if it is desired to have them lay again as quickly as possible. Three or four days of this confinement will usually be sufficient to discourage the broody tendency and the hens may be released. There is an advantage in having the broody coop in the hen-house where it is convenient to shut up the delinquents. Furthermore they will become active when the flock is fed and will thus be induced to eat more food than might otherwise be the case. The result is that they lose less weight and start laying sooner.

It is an excellent plan to use some method of marking broody hens so that they can easily be identified later in the season. An easy way to do this is by the use of colored celluloid leg-bands. For example, a green band may be placed on every hen put in the broody coop. At the end of the season some hens may be found to be wearing six or seven green bands. A hen that has been broody six or seven times, with a loss of ten or twelve days from laying each time (and records indicate this to be the usual loss), can not have been a very profitable producer. No such hen should ever be used as a breeder." - L. E. Card, Animal Husbandry Dept., U. of I.

They Handle 'Em Now - I noticed an article in a recent issue of the "Messenger" stating that one boat had nearly a full load of stock from Pike County on its first trip this season to St. Louis, and that the Producers' Live Stock Commission Association to whom nearly every animal was consigned, was not prepared to take care of such a large shipment on the first trip, and were somewhat slow in transporting the stock from the River Yards to the National Yards. I am informed by an officer of the Producers that they had arranged with a transfer company to truck this stock over to the National Yards, but both the Producers and the transfer company were a little surprised to find, as the article states, 'On the initial trip nearly every animal on the boat was consigned to the Producers' Association.' Seeing the possibilities of this run of business the Producers have put on a force of salesmen and have built up a nice trade with city butchers and packers at the River Yards. They receive the same prices and, in a few instances, more than is paid at the National Yards, and the river shippers are saved the cost of transporting their stock a distance of three miles to the National Yards. This puts the Producers in a much better position to handle river business than any other company." - Eyman, Jersey County.

A Wealth of Ideas - "Illinois Agricultural Policy" is the title of the new 195 page publication just off the press, which contains the complete papers given at the Agricultural Conference held at the University last January. Everyone who was present at the conference knows what valuable material is comprised therein. A splendid photograph of Dean Davenport is included. A copy of this publication is being sent to each adviser.

Who Needs Horses? - A letter from County Agent D. B. Noble, of Poplar, Montana, says: "Roosevelt County has several thousand head of horses, 1000 lbs. to 1400 lbs. weight, that are of practically no economic value here at the present time. They could be purchased at a very reasonable figure. Let me know of any counties in Illinois where this information would be desirable." - We submit the information to you.

Movable Limestone Outfit - "We are working on a cooperative limestone crushing project which, if it develops, will result in the greater use of limestone in Stephenson County and will render of some value, the local deposit of limestone which tests high in lime content and easy of access. Our plan includes the purchase of a portable crushing outfit consisting of crusher mounted on truck, a tractor for power, a portable storage bin, a distributor and a truck for delivering the crushed stone."

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The Extension Messenger

A series of brief notes from the weekly reports of the Farm Advisers, College and Experiment Station Workers and the State Leader's Office

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MAY 10 1922

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

May 3, 1922

No. 18

Illinois Floods

Very Serious

"Most counties along the Mississippi, Illinois and Wabash Rivers, as well as some tributary streams, have experienced very serious losses from high water and flood conditions during the recent weeks of excessive rainfall. The high water stage at Beardstown in 1844 was 22.1 ft; in 1883 it was 21.75 ft.; in 1913, 21.75 ft. and during recent flood conditions 24.9 ft. This unheard-of high water, together with high waves have caused the breaking of many levees which heretofore were considered absolutely safe.

The principal crop loss will be wheat, thousands of acres of which are from 3 to 4 feet under water. In the reclaimed areas, boats are the only means of transportation. Men who are acquainted with conditions estimate that it will take from 30 to 60 days for the water to recede.

Local Farm Bureaus are rendering all possible assistance to the farmers and are looking for suitable crops to be grown on this land. Ninety day corn, cowpeas, soybeans, millet, sudan grass and buckwheat will be the only crops which will mature in the shortened season. About all these farmers can hope to do is to grow enough to maintain their livestock and no money returns are expected before 1923." - V. Vaniman, Asst. State Leader.

"The annual Field Inspection Trip of the Department of Farm Organization and Management will be held in Hancock County, on Saturday, May 13th. Altho this is primarily conducted for the benefit of the students of the College of Agriculture of the University who are enrolled in the classes in Farm Organization, Farm Operation, and Farm Management, the trip is a highly valuable Farm Management Tour and visitors are welcome. Any individuals desiring to accompany the party are cordially invited. Local transportation by autos which are being furnished by the local farmers.

Facts covering the financial organization, physical organization, farm operation and farm management are furnished each student. From these a detailed study of each farm is possible. In this way the trip is made highly profitable from an educational point of view.

The party will arrive at Colusa, Illinois, on the Quincy branch of the C. B. & Q. at 8:25 A.M., Saturday, May 13th. The Farm Tour will conclude near Hamilton, Illinois, about 5 P.M. Good train service may be had from points nearby. Saturday evening after the tour of the farms cooperating with the Department of Farm Organization and Management, an inspection trip of the Mississippi River Power Company's Hydro-Electric development at Keokuk will be made by the students. The party will remain overnight in Keokuk, Iowa, returning Sunday morning to Urbana-Champaign." - W. J. Roth, Dept. Farm Org. and Mgt., U. of I.

Feeder Pigs to Sell - B. H. Milsted of Alamosa, Colorado reports 15 cars of pigs (65 to 100 lbs.) for sale in May. He will send you prices on request.

Is Your Farm Moving to the Ocean? "The most practical and efficient means of preventing large losses of plant food from soils is to keep a growing crop on the soil as much of the time as possible. Cover crops and catch crops should be given special consideration for this purpose. Drilled or broad-casted crops present on the land during the disastrous rains of the fall and spring conserve large amounts of plant food. The amount of plant food saved warrants the growth of these crops for this purpose alone.

In selecting crops for the purpose of protecting the soil against losses by rainfall, legumes should by all means be given preference over the non-legumes. Of the legumes, the clovers, sweet clover and alfalfa, are the most important because of their large plant food requirements, their depth of rooting, and their long growing seasons, together with the protective action of the old fall growth. The reduction in the losses of nitrate nitrogen by a drilled crop such as wheat are shown by the results published from Rothamsted for the winter of 1915 - 16.

Losses of Nitrogen (Pounds per Acre)
Broadbalk Field

Dunged, fallow	125	Unmanured, fallow	28
Dunged cropped (wheat)	43	Unmanured, cropped (wheat)	5

Crop residues left on the land exert a slight effect in reducing the losses of nitrate. In 1917, at Urbana, the untreated plot lost 60% of its nitrate from the surface soil, while the residue plots lost 40.4% of their nitrate. These losses occurred as a result of 2.93 inches of rain in one day in March.

Studies conducted on a number of experiment fields where sweet clover has been used as a green manure have indicated that this crop brings the soil thru the winter and up to the time of plowing for corn with much smaller losses than untreated or unmanured plots. Fourteen experiment fields are under study at the present time to obtain more data on this same point. Results obtained up to the present time indicate, however, that sweet clover during the fall had utilized plant food which otherwise would have been liable to loss, especially during the present season of high rainfall.

Some idea of the magnitude of this problem is gained from an inspection of the losses of plant food from the soils of the Mississippi Valley as presented in one of the most significant bulletins published in recent years (Ky. Bul. 237). About 11,000,000 tons of nitrogen, phosphorus, sulfur, potassium, calcium, and magnesium are carried away in solution annually to the mouth of the Ohio River. Similar calculations for the Mississippi River at Baton Rouge show about 36,500,000 tons per year in that river. These amounts do not include the plant food contained in the suspended material of the rivers. The amount lost from the soil through the Mississippi River to the ocean per year is valued at more than the total corn crop of this country.

Grow clovers, especially sweet clover, and help prevent the farm from moving to the ocean." - Div. Soil Biology, U. of I. - A. L. WHITING-

To Determine Results - "With an increasing interest in sweet clover in this county and a desire for more knowledge relative to fall plowing of sweet clover the first year, our office is starting to follow up and obtain all possible information on from 12 to 15 farms where sweet clover was fall plowed the first year of its seeding last fall. There is a large acreage of sweet clover in the county this year." - Longmire, Grundy County.

"Reduce Livestock Shipping Losses - The season of the year is approaching when losses in shipping hogs are likely to be unusually large. The first few days of hot weather cause large losses of hogs that are not properly handled prior to or during shipment. As high as twenty-five head of hogs have been reported dead in one car and it is not unusual to find three or four dead in a load. Most of these losses can be eliminated if necessary precautions are taken by the shippers and the carriers.

Live stock shipping associations provide an excellent opportunity of studying the handling of shipments in order to develop the best methods. Shipping association managers can render real service to the livestock producers by improving the shipping methods. A summary of the important factors in shipping to reduce losses is as follows:

1. In ordering a car for shipping hogs, insist upon getting one that is in good condition and clean.
2. Bed the car with sand, clay, or fine straw.
3. Before loading, wet the bedding and interior of car thoroly.
4. Give only very light feed of grain before starting to the loading chute.
5. Carefully haul or drive your hogs to the shipping station in plenty of time to allow them to become rested and cool before loading.
6. Do not load more than one hour before the train is to depart.
7. Load as slowly and carefully as possible in order to avoid excitement and overheating the animals. Do not beat or bruise the animals.
8. Load not to exceed 14,000 lbs. fat hogs and 16,000 stock hogs in a standard 36-ft. car during warm weather.
9. Use ice on floor of car or place in gunny sacks suspended from the top of the car.
10. Report inattention or neglect promptly to the Superintendent of the Division on which your shipment originates.
11. Never throw water directly upon the hogs after they become heated. Instead, run it on the floor of car under the hogs." - W. H. Smith, Dept. of An. Husb., U. of I.

Soybeans Replace Oats - "The few days of bright sunshiny weather this week, after several weeks of cloudy, rainy weather have given the farmers encouragement, and they have been very busy doing what work could be done toward preparing for putting in crops. A few are still planning to sow oats, but the majority of the farmers are going to substitute soy beans or other crops for oats. We are having quite a demand for soybeans and shall have no trouble in placing the large supply of soybean seed for sale in the county. The most popular varieties are the Wilson, Ohio 9035, Black Eyebrow, and Virginia. It is surprising to note the increased interest that has developed in this crop within the past few years. Three years ago only a small percent of the farmers grew soybeans, but now most every one plants a field of soybeans." - Gougler, Adams Co.

"The Peach Borer - The Natural History Survey has just issued a circular on the control of the peach borer. This circular summarizes the results of two years experimental work in Illinois. These results show a decided advantage in combating this borer with para-dichlorobenzene in preference to the old method of hand-worming. Full directions for using the para-dichlorobenzene are given." - Natural History Survey, U. of I.

"The new soil test which was given out by Dr. Bauer is proving to be very valuable in field work. I have tested a number of samples of soils on different farms and in every case the farmer has been favorably impressed by what he saw." - McWilliams, Randolph Co.

The Extension Messenger

A publication of the Extension Service of the Farm
Administration, U. S. Department of Agriculture, the
State Extension Office

UNIVERSITY OF ILLINOIS - URBANA, ILLINOIS

Vol. V

May 10, 1922.

No. 19

Oh! A Grand Celebration It Will Be.

"We are ten years old in June! Ten fruitful years they have been. We will celebrate this wonderful development in Agriculture in a grand State-Wide "Decennial" to be held at DeKalb, June 30. The Pageant plans are rapidly taking form and Miss Nina B. Lankin, pageant director, has been on the job since May 1. She spent the first week in conference with farm advisers, farm bureau officers, officers of the I. A. A. and at the University. Many valuable suggestions were received and the pageant promises not only to show farm bureau progress during the past ten years, but also to be a production that will surpass in magnitude and artistic setting any former attempt by rural people along this line.

The outdoor stage selected has a natural setting of trees and shrubbery. It offers a space 250 ft. wide and 400 ft. deep for the production and space for an audience of 15,000 people.

Active cooperation and support is being tendered from all parts of the state. Southern Illinois leads in having the first county to offer a float.

At a meeting of representatives from 12 counties at DeKalb Friday, 50 local rural units aggregating 750 people offered to participate in the cast. About 20 local committees will be organized to develop the different parts of the cast.

Conference days are contemplated for every section of the state so that farm advisers and County Decennial Committees from every county may confer with Miss Lankin regarding the preparation of floats and other entries.

It is probable that there will be two performances of the Pageant." - J. D. Bilsborrow, Chairman Pageant Committee.

"Cleaning up the Herd. - There is a tendency among dairymen, and especially among the members of cow testing associations, to get started with pure bred. This is a good practice and the good dairymen should be encouraged to do so. However, before the dairymen invest in pure bred, it is wise to clean up the grade herds that the pure bred are going into. It will be much easier to send a few grade cows to the butcher now than to send the good pure bred later on. If you clean up now and demand clean animals when you buy, your losses from tuberculosis will be reduced to the minimum." - C. S. Rhoads, Dairy Extension, U. of I.

New Illinois Circulars

"The County Home Bureau in Illinois", Cir. #253, 8 p., by Juliet Lita Bane.

"Strawberry Club Manual", Cir. #254, 12p., by A. S. Colby

"Growing Soybeans in Illinois", Cir. #255, 16 pg., by J. C. Hackleman

"Does Carbon Dioxid in Carbonated Milk and Milk Products Destroy Bacteria", Cir. 256, 8 p., by Prucha, Brannon and Ambrose.

"The Control of Household Insects", Cir. #257, 24 p., by W. P. Flint.

"The Peach Borer and Methods of Control", Entomological Series Cir. #8, 12 p., Flint and Chandler

"Crops for Flooded Areas. - What crops may be grown on the flooded lands of Illinois? Corn has been the principal crop in the river bottoms. It will continue to be so. By the time the water has subsided, the corn planting date will be late. This will necessitate early varieties. The following are suggested: 90 Day, Silver King, Golden Glow, and, for the latest planting, Northwestern Dent.

Soybeans should be considered and to some extent will take the place of corn. For the most part early varieties are recommended. Ito San, Mancha and Black Eyebrow are good. In the more southern sections certain other varieties may be used.

Cowpeas will also come in nicely, particularly on sandy areas and in the southern portion of the flooded districts. New Era and Whippoorwill have demonstrated their worth for Illinois conditions.

Buckwheat in the past has served its purpose well when seeded under such conditions as prevail now along the rivers. It matures in about 60 days. The Japanese, the Common Gray and Silver Hull are desirable varieties.

Millet may be used, though only in limited amounts. Common and German are leading kinds.

Sudan Grass, like millet, will produce good results. As an annual hay crop it is worth while. The sorghums, both the sweet and the nonsweet, will help some. The former for hay and the latter (kafir or fetereta) for grain.

The farm adviser should be consulted for further details regarding varieties not listed above." - W. L. Burlison, Chief in Agronomy, U. of I.

Marooned in their houses while fields of wheat, alfalfa and corn land were inundated with flood waters, has been the plight of about a thousand farm families along the banks of the swollen Mississippi, Illinois and Wabash Rivers.

Farmer flood relief was the subject of discussion at a meeting held in Springfield, Illinois, May 4, which was attended by farm advisers from the flooded area, the Red Cross, University of Illinois, Illinois Agricultural Association and Illinois Farmers Institute.

A need for seed, feed and provisions was indicated, and \$250,000 was the amount set to be raised for relief in fifteen counties which total 200,000 acres of flooded land. The counties most affected are Schuyler, Cass, Union, Alexander, and Jackson, while Peoria, Pike, Madison, Greene, Scott, Calhoun, Jersey, Lawrence, Fulton, Randolph are other counties which have sustained appreciable damage.

Local Red Cross units cooperating with farm bureaus are expected to raise relief funds which will be used for the purchase of 10,000 bushels of seed corn, 40,000 bushels of seed wheat, 3000 bushels of soybeans, 70,000 lbs. of alfalfa, 5000 bushels of potatoes and other suitable seeds; as well as feeds for animals and provisions for dispossessed farmers.

Farmers thruout the State of Illinois will be able to do that which they rarely have an opportunity to do, i.e., come to the help of fellow farmers who have suffered by some natural catastrophe. Organized as farm bureau members and with the help of the Red Cross and other organizations this relief can be prompt and efficacious. - Rose D. Briem, Ag. Ext. Service.

Someone has inquired about soil augers. The Burr Company of Champaign have made a great many augers for us in the past. At present they quote the following prices: For augers of standard length (41 7/8 inches) the price is \$9.00 each if made in two sections; and \$10.00 each if made in three sections. If orders are received for ten or more, substantial reductions in price are made. Write direct to The Burr Company, Champaign, Illinois.

Truth has never been arrested for exceeding the speed limits.

Is That Farm Account Book Up To Date? "Constant attention to details is irksome to farmers as well as to most all of use. Yet success or failure is determined oftentimes by how well this is done. This is the price the farmer must pay if he is to obtain an intimate knowledge of the facts of his business. Accounts, properly interpreted, furnish the most satisfactory basis for successful organization and administration. The more detailed and accurate they are the more valuable they become.

At this time it appears advisable to call attention to the importance of following up the accounts that were started in the various counties last winter. Experience has shown that if any substantial number of records are to be kept, follow-up work is very necessary and important. Consequently it is suggested that each Farm Adviser, in whose county a Farm Accounting Project is going, make an effort to get in touch with each farmer who started a book and call his attention to the importance of keeping the book posted up to date. The time to make the entry is when the outlay or sale is made. This takes care of the entry for all time and insures a complete and accurate record.

Now that the cropping season is approaching farmers will be busy in the fields and will be disposed to neglect or forget to do their posting. A letter, call, farm visit or some other communication will be a good reminder." - F. F. Elliott, Dept. of Farm Org. and Mgt., U. of I.

"Cutting Down the High Cost of Lumber on the Farm - Due to the increasing scarcity and high prices of all kinds of lumber in the Mississippi Valley, the farmer finds it necessary to curtail his demand for lumber, and to use most frugally that which he must buy.

Here are six ways in which the farmer can cut out a great deal of the waste in lumber, get more satisfactory service and at the same time reduce the cost of production.

(1) Do not waste lumber. Utilize the smaller sizes to build up beams, joints and rafters. Large heavy timbers are very expensive and wasteful.

(2) Don't use wood in places where it cannot be protected, as in foundations and damp locations. Use concrete, stone, or building tile.

(3) Treat fence posts with creosote, especially if they are bought at high prices. The heavier timbers and barn framing might well be treated by spraying before going into the structure.

(4) Use lumber as sparingly as possible for floors, and never in large hog houses, feeding floors, dairy barns, and basements.

(5) Keep a good tight roof over a building, a solid permanent foundation under it, and a good coat of paint around it.

(6) The wood that goes into implements is extremely high priced. It is very short lived unless protected. Paint it and keep it sheltered when not in use." - C. A. Scholl, Dept. of Farm Mechanics, U. of I.

"Did you know that 725 boys and girls have set out over 225,000 strawberry plants as a result of the strawberry campaign conducted by the Junior Extension Department and the Horticultural Department of the University of Illinois? 'Tis true.

This enrollment comes from 76 different counties of the state. The membership varies from one, in a few counties, to 49 in Vermilion County, which has the largest enrollment. The size of the beds vary from 100 plants to several thousand. Altho most of the plants were set in small beds for home use, if they had all been planted in one field they would cover approximately 40 acres.

The wide appeal and general response of the strawberry club work indicates a growing interest in fruit culture in this state. A similar campaign will probably be conducted during 1923." - H. F. Wolter, Dept. Jr. Ext., U. of I.

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OFFICE OF THE STATE LEADER
MAY 21 1922

The Extension Messenger

A series of brief notes from the weekly reports of the Farm
Advisers, College and Experiment Station Workers and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

May 17, 1922.

No. 20

Are You Fattening
Or Growing Your
Swine?

Swine breeders consider it good practice to put extra effort on the growing of their young stock intended for breeding purposes. To meet the requirements of size as well as type, pigs should be grown instead of fattened.

Rations which produce the greatest gains may be desirable in fattening animals for market but in many cases such rations are not suitable for growing breeding stock.

Rapid gains may be secured by self feeding corn and tankage and this ration can be recommended in feeding pigs for market but for growing breeding animals this plan is likely to prove a disappointment to the feeder. Pigs intended for breeding purposes may be self-fed provided they are limited in the amount of corn and other fattening feeds they receive. This can be accomplished by mixing bulky feeds such as ground oats, bran, or ground alfalfa with the corn and supplying plenty of palatable forage.

The breeders most successful in developing pigs for breeding purposes practice hand feeding as they believe that they can better regulate the kinds of feeds which the animals should have in order to increase their size, strengthen their bone, and maintain their proper shape. A ration made up of a mixture of 3 pounds corn, 3 pounds ground oats, 2 pounds middlings, and 1/2 pound tankage will give good results in growing pigs. Pasture should also be provided and they should have access to fresh water and a good mineral mixture at all times."- W. H. Smith, An. Husb. Dept., U. of I.

"Fair Exhibit Helps - Many farm advisers are requesting of the various extension specialists, some help in planning exhibits for county or community fairs. To eliminate duplication of effort, both on the part of adviser and specialist, a committee was appointed to work out complete detailed suggestions for such help.

This has been done and each department's suggestions are being mimeographed, ready to be mailed out from our 1210 Springfield office upon individual request.

Advisers will please not write specialists, but send requests direct to our office stating which department's suggestions they will wish and we will compile them and mail direct to you.

No special charts are being made as formerly, but excellent plans and suggestions are made up from each department to help you make real, individualistic exhibits of your own which will be of much greater value." - C. A. Atwood.

Floods Recede - Wheat Destroyed - The water is slowly going off of the flooded parts of the county. Thousands of acres of wheat were destroyed and the problem of crops for this area now faces us. Many of these men were renters who were already in debt due to low grain prices last year. They were depending upon their wheat crop to help out." - Wheeler, Lawrence County.

"Home Grown vs Prepared Feeds" - Some men believe the crops they grow on the farm are unsuitable for milk production and consequently, purchase most of their feeds in ready mixed form. The latter feeds often give better results than mixtures of farm grains owing to their higher content of protein and also on account of the presence of molasses or other appetizing substances which causes them to be eaten with such relish that they are fed in larger amounts.

While most of the ready mixed feeds on the market undoubtedly have a high feeding value, their cost is usually much greater than equally satisfactory rations made up of home grown grains and purchased protein supplements. Much of the profit possible in dairy farming results from marketing the crops at good prices by converting them into milk.

Good rations for moderate milk production, (as much as 20 to 25 pounds of milk daily in case of Jerseys and 30 to 35 pounds in the case of Holsteins) may be secured by the use of home grown feeds alone when a legume hay (such as alfalfa, clover, soybean or cowpea) of good quality is used in liberal amounts.

Advocates of home grown rations often overlook the fact, however, that for production of larger amounts of milk than those mentioned, that it is often economical to purchase a protein supplement to be used in connection with the farm grains, such as cottonseed meal, linseed oil meal, gluten meal or gluten feed.

If non-legume roughage only is fed, it is not possible to make satisfactory rations for good dairy cows by the use of home grown feeds alone, thus necessitating the use of a large proportion of protein supplements." - W. P. Novins, Dairy Dept., U. of I.

Union County Gets Bull Association - "Recently we finished organizing the county bull association, with three blocks. It is called the Union County Jersey Breeder's Association. A committee was appointed to at once look into the purchase of the bulls. We went to Lawrenceville and bought the three yearling bulls that won first, second, and third in their class at the State Dairymen's Show last fall. Their dams have fine records. Two of the bulls are half-brothers and the third has similar breeding to the other two. This gives about 50 men a chance to breed some fine dairy cows." - Doerschuk, Union Co.

"About 10 to 12 thousand acres of Illinois River bottom farming land has been under water as a result of the breaking of the Scott County Drainage District Levee. A considerable number of farmers were put out of their homes. The Farm Bureau is conducting a survey of the situation and is assisting these farmers, flooded out, to secure some upland to farm this year. We also assisted in the raising of more than \$800 in money for the relief of these unfortunate farmers. Crops will be late in all parts of Scott County this year. We are assisting our farmers to locate 90 day corn, soybeans, cowpeas, etc. to use when flooded areas are dried off." - Husted, Scott Co.

Twice as Large - "J. W. Morgan of Galva is plowing under some sweet clover of last year's sowing, part of which was cut for hay last fall and part left untouched. Both roots and tops are over twice as large on the part which was not cut." - Whisenand, Henry County.

Peoria Producers' Progressing - "The Farm Bureau Directors are meeting with very good success in selling memberships for the new Producers' Commission Association in Peoria. They have turned in over 100 memberships with several yet to report." - Henscock, Peoria County.

Soil Augers Again! Since our last issue, our attention has been called to the fact that standard three-section soil augers can be purchased from another firm in Champaign (thru the soil survey department of the University) for \$6.00 each including parcel post. Refer any orders with remittance to R. S. Smith, College of Agriculture, Urbana, Illinois.

"The most interesting comparison that I have had with the new method of testing soil acidity was made one day last week on a level farm of excellent quality brown silt loam soil. A sample taken from an alfalfa field to which a liberal quantity of limestone was applied one year ago showed only a clear solution when the soil settled. Directly across the fence on exactly the same kind of soil but where no limestone had been applied the acid condition was quite apparent. Other checks revealed the same comparison." - Keltner, Winnebago County.

Sweet Clover--Forward! All plans are about complete for our big sweet clover demonstration tour which will leave the farm bureau office at Waterloo at 9 A.M. on Tuesday, May 16. The fact that we have the promise of eight University speakers shows that this should be one of the biggest affairs in southern Illinois this summer. We intend to make it such." - Tate, Monroe County.

Legumes Work Regardless - "We have been using the opportunity presented by the excessive spring rains to present to our people the fact that clover, alfalfa, and sweet clover have done remarkably well under these conditions and these legume crops are going on with their work of soil building and seed production, even tho the weather for sowing oats has been unfavorable. Also, that these crops, even tho the weather should be so bad that they cannot be harvested for hay, will do their work of soil building." - Rehling, Clinton County.

Thinks Grimm Superior - "On the Griffith home farm Grimm alfalfa is showing a pronounced superiority over the 'common' that is seeded in the other half of the field. A few demonstrations like this one will convince the most skeptical what variety of alfalfa seed to use. We recommend common alfalfa when used in a very short rotation." - Fuller, Marshall-Putnam County.

"The alfalfa which was sown last fall is doing well. It is from 12 to 18 inches high. The results from the use of limestone in the growing of alfalfa are almost surprising. The farmers are beginning to order limestone. From all indications, I believe there will be as much, if not more, limestone used in the county this year than there was last year." - McGhee, Massac County.

"Seed Corn Selection and Soil Testing - A series of 25 meetings on seed corn selection and soil testing was recently completed. 273 bushels of corn were selected at these meetings and 591 people were present. On an average, about 50% of this corn was culled out, being affected with disease. We couldn't cull out any of the 591 men present as all of them are interested in Farm Bureau work and in the improvement of their corn. All of these men are trying to get something out of the organization and they are the ones who are receiving it." - Burns, JoDaviess County.

Keep the Buildings Painted-- Paint not only prevents rot and decay and depreciation generally, but it also adds a great deal to the pride of the farmer and his family.

The ladder of success is greased. You'll have to use "grit" to climb it!

EX

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Advisers, College and Experiment Station Workers and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

May 24, 1922.

No. 21

Peach Leaf

Curl

"Leaf curl is unusually abundant this year. The spores of the disease pass the winter on the twigs and begin to develop just as the buds swell in spring. Unlike the spores of most fungi the leaf curl organism is easily killed in the resting stage by lime sulfur, Bordeaux, or a simple solution of copper sulfate.

The dormant spray of lime sulfur as applied for scale is practically a perfect means of control if application is made either in fall after the foliage drops or before the buds begin to swell in spring. Nothing can be done at this time to check the disease or reduce the damage done by it. Liberal applications of either sodium nitrate or ammonium sulfate just now might help the tree to set buds for next year, but will probably help very little as far as this crop is concerned. The amount to apply will depend on the type of soil, but will vary from 1/4 pound of sodium nitrate on one year trees to 5 pounds on 10 year old trees. If ammonium sulfate is used, then 3/4 of the above amount will carry the nitrogen equivalent." - W. S. Brock, Horticultural Dept., U. of I.

"The Corrugated Roller - When soil is plowed, numerous air spaces are found in the furrow slice. We must get rid of these air spaces by firming the soil, otherwise the movement of air thru these larger open spaces will dry out the soil very rapidly--also the soil particles as they fall from the plow do not lie close together--thus the movement of water will be very slow and its movement of the air thru the soil is much greater than where the soil has been firmed. As a consequence the soil will dry out more quickly.

Due to the excessive rains of the spring, preparing ground for corn will be more than an ordinary task. Perhaps there are no tools better suited to this task than the disk and corrugated roller. The former is used extensively for working ground deep, either disking before or after plowing, but the corrugated roller no doubt is in a class by itself when it comes to crushing clods and packing the lower soil and still leave a surface in which corn can be planted.

The importance of thoro preparation of the seed bed can scarcely be over-emphasized. The clod contributes nothing to plant growth for the single reason that plant root can not penetrate it. Plants obtain their moisture by their fine roots coming in contact with the soil particles, which are surrounded with films of moisture.

A well prepared seed bed takes in more water and holds more for plant use than one poorly prepared. A well prepared seed bed is one that is deep, well pulverized and well firmed down." - J. H. Hedgcock, Dept. of Farm Mechanics, U. of I.

Lake County now has 16 cows at the Dixon testing plant, nearly twice as many as any other county in the state. All that have freshened so far are making good records, two of them are better than 29# of butter in 7 days."- Wheelock, Lake Co.

"Glass faced frames have been made, 20" x 26" in size, for every bank and elevator in the county, in which poster bulletins will be shown from time to time." - Burns, JoDaviess Co.

Mr. Burns expects in this way to put out timely publicity about the Farm Bureau, as well as informational material for farmers. The frames are hinged in back so the posters can be easily changed. Farmers will see these announcements in banks and elevators, places which they have occasion to visit often. This ought to be a useful service as well as an excellent piece of publicity." - R. D. Briem

"The Vienna Experiment Field - The following data and brief discussion are published at this time because little is generally known about the character of the work being done on the Vienna Experiment Field.

The soil is yellow silt loam hill land. At the time the fields was taken over by the University, this land was abandoned and could not be farmed because of numerous deep gullies. Treatment was begun in 1915. The rotation is corn, cowpeas, wheat, clover and timothy.

The treatment is limestone, 2 tons per acre every 5 years on all plots; acid phosphate, 1000 pounds per acre every 5 years on Plots 3 and 6; rock phosphate, 2000 pounds per acre every 5 years on Plots 2 and 5; manure is applied to all plots excepting the check in proportion of the crops produced.

The following table summarizes the crop yields thus far secured. Cowpeas are excluded from the table because known errors in harvesting make the plot yields of this crop of very questionable value. All other yields are included in the averages.

	Wheat 6 crops bu. per a.	Clover 4 crops lbs. per a.	Timothy 3 crops lbs. per a.	Corn 6 crops bu. per a.
Acid phosphate	16.2	5950	4311	25.9
Rock phosphate	15.0	5427	3498	24.1
Manure	14.0	5037	3940	23.3
Check	10.4	4565	3310	22.3

The phosphate applications are approximately equal in cost with the advantage slightly in favor of the acid phosphate. Both phosphate treatments supply phosphorus in excess of the amount removed, the acid phosphate returning about $2\frac{1}{4}$ times as much of this element as is removed by the maximum crops grown. The apparent superiority of acid phosphate on this type of soil in growing clover and timothy, and its at least equal value compared to rock phosphate in growing the other crops suggests its value as a carrier of phosphate in a dairy and stock country such as Johnson County." - R. S. Smith, Agronomy Dept., U. of I.

Patrolling Roads - "Old Residents claim that the wet weather has been the worst on the roads of any spring experienced for many years. After a rain, patrolmen put the roads in good shape and about the time they were smoothed over, another rain came which softened them so that many of them were cut hub deep. Folks are wondering what they would possibly have done during such weather conditions if they had not had the patrolmen." - Brooks, LaSalle County.

"Our Seed Day Saturday was a success. All seed was labeled to conform with the Illinois Seed Law. We have a large black board on which was listed the name of the grower, the kind of seed, and the amount. We made it a point to get buyer and seller together. Clover and soybeans sold best. Several hundred bushels of each changed hands. It was the largest crowd that ever visited the Farm Bureau office in one day. Clover went at \$12, soybeans at \$2, chinch bug proof corn at \$2.50." - Kendall, Morgan County.

"Chinch-bug conditions - Examinations of wheat fields in a few central Illinois counties show a slight increase in the number of bugs over last year. It is evident that the bugs were not injured by the wet weather earlier in the spring. They are just starting to deposit their eggs. Young bugs will not be found in fields before the latter part of May. It would be well for every farmer south of a line drawn thru the center of Hancock and Peoria Counties to examine their wheat fields, and make sure the bugs are not present in sufficient numbers to cause serious damage to the corn at harvest time. The three means of effectively combating the bugs during the summer are barriers, resistant varieties of corn, and legumes in corn." - W. P. Flint, State Entomologist, Ill. Natural History Survey.

"Evidences now indicate that chinch bug situation is as alarming as it was a year ago. Reports from various parts of the county are that there is a bad infestation in the wheat and oats now." - Piper, Richland County.

"Chinch bugs are very much thicker than last year. Several farmers are asking for Democrat corn and soybeans, with the seed supply of the latter practically exhausted." - Walworth, Macon County.

"Chinch bugs are more numerous in some localities than they have been for years. Farmers are already beginning to think about the use of barriers to save their corn. Adult bugs are present in some fields where the corn is up. It looks as if the first brood of chinch bugs will develop on corn." - Belting, Shelby Co.

"A Stand of Sweet Clover on practically every farm visited this week (45 in number) is the record for this county. Over 12,000 acres are being plowed this spring with sweet clover that was seeded a year ago this spring. The clover is over knee high and where they are using a three bottom tractor they have to take off one bottom, as they cannot pull thru, and are having a hard time using the two bottom tractor. It is necessary to have 6 horses to a gang plow. It does one good to look at this beautiful ground of sweet clover with its enormous root system that has been adding nitrogen and organic matter to these soils. A little over 5700 bushels of sweet clover was sown in this county this spring. Farmers are learning more and more the value of sweet clover as a soil builder.

Hundreds of acres will be put into alfalfa this summer and fall where they have had a stand of sweet clover, as this is the most successful way of getting a good stand of alfalfa by preparing the soil for sweet clover and following with alfalfa. Farmers are learning that about a ton of phosphate applied with sweet clover and turned under is giving very good results.

Several hundred head of cattle have been recently shipped in and farmers are turning them on the sweet clover pasture until fall and then fatten them for market. As a pasture, sweet clover gives a larger amount of pasturage than most any other crop." - Collier, Kankakee County.

"The first flood relief aid from the Red Cross came this week in the form of a carload of 700 bushels of Silvermine and Reid's Yellow Dent Seed Corn. This is being unloaded at Wolf Lake, Ware, and Reynoldsville. Miss Salsbery, Red Cross worker, is spending several weeks in the county assisting in this work. The Illinois Central Railroad Company is moving the car without charges in the county. The water has run off satisfactorily from the higher parts of the bottom and many farmers are ready to plant. Some of this corn has already been planted. The flood waters washed away considerable parts of roads and in some cases dug large holes in fields and changed the soil and contour of the fields." - Doerschuk, Union County.

"An Agricultural life is one eminently calculated for human happiness and human virtue." - J. Quincy.

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The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

May 31, 1922.

No. 22

When Should
We Cut
Red Clover
for Hay

"In order to obtain the best results with red clover hay it should be cut just as it comes into full bloom. There are conditions, however, which make it advisable to cut earlier or later. To get the highest percent of digestible nutrients the hay should be cut early, while the largest amount of feed will be secured from the late cuttings. The percent of protein in the plant increases up to the blooming period but decreases after that. Early cuttings are difficult to cure because the plant contains 75% or more of water, while the late cuttings are equally difficult to handle because of the loss of leaves. It should be remembered that about 40% of the plant is leaves, which is the best part of the hay. The leaves are richest in protein, containing about 2/3 of the total of the plant. The small stems are next, while the coarse stems are poorest in this valuable part of the feed.

The weather is also an important factor in deciding the time of cutting clover hay. Both early spring and late fall furnish poor hay curing weather. Any delay in the time of cutting hay in the spring should bring us nearer the ideal hay weather. Of course the reverse is true for fall cuttings. In any case one should avoid wet rainy weather during the process of making hay. One safe rule to follow is never to cut clover when there is moisture on the plants, either in the form of dew or rain.

If the grower intends to harvest seed from the second crop, he should cut the hay crop so as to control the clover seed insects. Results of several experiment stations indicate that the hay crop should be harvested before the first of June. While this varies with the season yet in most cases it would be before the heads have come into full bloom.

The quantity of hay; the quality or feeding value as influenced by the digestible nutrients, the percent of heads, leaves, and coarse stems; the weather for making hay as well as the influence of the hay crop on the succeeding seed crop are all factors which should be considered in deciding when to cut clover for hay. Considering all factors, the full bloom stage will meet conditions on most farms."--John Pieper, Crop Production Division, U. of I.

Certified Seed Inspection. "Certified seed grain is coming into greater recognition. The Illinois State Fair, and the Central States Fair and Exposition (to be held at Aurora) have both announced special classes for certified grains.

Amended rules, variety instructions and directions for field inspection are being mailed to farm advisers. Crops to be inspected are winter wheat, spring wheat, oats, soy beans and corn. Several applications for inspection have already been received. It is important that applications be on file as soon as possible so the routing of inspectors can be economically arranged. The charge for inspection is 50¢ an acre up to 20 acres and 25¢ an acre above 20 acres, with a minimum charge of \$10."--J. C. Hackleman, Crops Extension, U. of I.

"Summer Care of Sheep. Conditions surrounding the sheep industry at the present time warrant sheep raisers giving their flocks good care during the coming summer. Summer management may be simple, yet successful. Good pasture, abundant fresh water, salt, shelter and control of parasites are the essentials at this season. Bluegrass pasture is good; forage crops are better. Lambs are much less likely to become infested with stomach worms on a bi-weekly change of forage crops than on permanent bluegrass pasture. It is good practice, as well as good advice, to give the ewes and lambs this frequent change of feeding grounds. Equal parts of oats and corn help to keep the 'baby fat' on the lambs until they are marketed. They may be marketed at weaning time--4 to 5 months of age, sometimes younger, at satisfactory weight and usually with a good return on the investment. Do not neglect to provide water, salt, and shade.

If lambs become infested with stomach worms give them $1\frac{1}{2}$ to 2 oz. (3 oz. for mature sheep) of a 1% solution of copper sulphate in water. To make this, dissolve $\frac{1}{4}$ lb. of clear blue crystals of copper sulphate in a pint of boiling water. Add cold water to make a total of 3 gallons. The medicine is given as a drench in a dry lot, and the sheep should not be turned into fresh pasture for at least two days, or the pasture will become infested with the eggs passed in the feces and reinfestation of the flock will occur very soon."--W. G. Kammlade, An. Husb. Dept. U. of I.

"Will it Pay to Raise Horses and Mules? Yes,--if you are a general farmer, located where you have good pasturage for 5 to 10 months of the year, where grains and forage constitute your principle crops, it will pay to raise enough horses or mules to take care of your own replacement needs. There is no profit in raising horses or mules except where they are produced as an incident to regular farm work, and sold before depreciation begins."--Wayne Dinsmore, Sec., Horse Ass'n. of America.

"Get Together" Projects. "The Farm Bureau in cooperation with the County Fair Board and Purebred Breeders' Association raised sufficient funds during the week to pay for the construction of a concrete grandstand 40 feet by 200 feet on the Fair Grounds. Olney business men put up dollar for dollar with the farmers to pay for it. Cost will be \$8,500. The contract has been let for completion August 20, 1922. Drives like this are doing much to remove the imaginary line between the city and the country."--Piper, Richland Co.

"Very few oats were sown in Jersey County this year. The Farm Bureau assisted in procuring six cars of cowpeas. Cowpeas have taken the place of oats with us for this year. This means better wheat, of course, on the cowpea land. We consider we have lost nothing by being unable to sow oats. There is more money in the cowpeas."--Eyman, Jersey Co.

Discovered--Soy Beans! "Have placed 35 bushels of soy beans in the county, mostly in bushel lots. That sounds small beside down-state reports, but it is big for a county that is just discovering soy beans."--Heller, Cook Co.

Soy Service. "Our Farm Bureau has assisted our farmers in selling 4000 bu. of soy beans for seeding purposes. A good many of these means have been sold in small orders. Jersey County folks never saw the like of soy bean attachments that are being put on corn planters this spring. I think it safe to say that 40% of our corn acreage will have soy beans planted in the corn."--Eyman, Jersey Co.

For the land's sake grow a legume!

"Cultivation vs. Non-Cultivation of Alfalfa. The roots of alfalfa are so deep and well distributed in our average soils, that cultivation of the surface for moisture conservation is not important. Possibly the main benefit of alfalfa cultivation comes from the killing of weeds and grass. However, experience has shown that the best time to kill weeds in an alfalfa field is before the crop is seeded. Cultivation may be advantageous in some fields from the better soil aeration it affords.

Influence of Cultivation of Alfalfa, Urbana, 1919-1921 (3 years)

	Average Yield
No Cultivation	4.46 tons
Spring tooth cultivator	4.25 "
Alfalfa cultivator	4.40 "

During the last three years on the South Farm a thoro cultivation immediately following the removal of each crop has resulted in slightly less yield of hay than the adjoining non-cultivated plots. Experiments have not been conducted using a single cultivation per year. The mulch made by the cultivator is often a real hindrance in clipping the crop. The loose soil dulls the sickle and often the clods collect on the mower bar and run down the plants, resulting in a ragged job of cutting."--Geo. Dungan, Crops Div., U. of I.

"Apple Scab. The scab fungus develops most rapidly during the cool wet weather of early spring. The maximum infections usually takes place between the time when the first flowers open and the falling of the petals. The last infection rarely occurs later than two weeks following petal fall. The fungus attacks both foliage and fruit. The first evidence of the disease on the foliage and fruit. The first evidence of the disease on the foliage is a brownish discoloration on the under side of the leaf later developing into a prominent brown area visible on both sides. On the fruit the first visible effect is an olive green, or when moist, nearly black, circular spot. The scab lesions on leaves when sprayed with lime sulfur are ruptured and the spots appear much more prominent altho no additional injury occurs. In a season such as this, therefore, sprayed trees may actually look worse in midseason than those unsprayed. This appearance should not be mistaken for spray injury and used as an argument against spraying or against lime sulfur as a fungicide."--W. S. Brock, Dept. of Horticulture, U. of I.

"Orchard Practice for the Control of Blister Canker of Apple Trees" is a new Experiment Station Circular by H. W. Anderson. Ask for No. 258.

Plowing it Under. "We inspected one field of second year sweet clover, belonging to Mr. A. G. Abney, which had made a splendid growth on thin rolling land which had been limed. The owner was advised to turn this under rather than to attempt to make hay of it. The best piece of wheat we have seen on upland this year was on the farm of R. L. Sutton where he had turned under a heavy crop of sweet clover last fall. This land has been previously limed. The sweet clover was not turned under until most of the seed was matured. There is now a good stand of volunteer sweet clover."--Whitchurch, Saline Co.

"Turning Under" for Truck Crops. "Have completed arrangements for two truck experiment plots to determine the extent to which green manures may take the place of the failing supply of stable mamure in truck farming in Cook County." --Heller, Cook Co.

"Green Manuring" is the title of Farmers' Bulletin No. 1250 just issued. You will want to add it to your legume library.

EX

The Extension Messenger

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JUN 9 1922

A series of brief notes from the weekly reports of the Farm
Advisers, College and Experiment Station Workers and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V.

June 7, 1922.

No. 23

When Should
We Cut
Alfalfa

"Alfalfa is peculiar in that it does not flower and produce seed readily in the humid climate of Illinois. This is a decided advantage both from the standpoint of good yields of hay and from the fact that extreme care need not be exercised as to time of cutting. The development of new shoots at the crown are the important indicators of the time to harvest alfalfa. The period is not limited to today or tomorrow but may be continued over a week or ten days. The new growth should be well started but not tall enough to be clipped off and thus set back the growth of the next crop. Continued late cutting materially injures the stand. When alfalfa was cut at the appearance of the first shoots the yield of hay was 3/10 of a ton less than when harvested at the time it was in 1/10 bloom. The second crop of the early cut alfalfa was slightly in excess of that cut later, but the total yield of all three crops was greatest when cut at the 1/10 bloom stage.

Influence of Stage of Cutting Alfalfa, Urbana, 1919-1921.

Stage	Yield of air dry hay in tons per acre.			
	First Crop	Second Crop	Third Crop	Total Crop
First Shoots	1.53	1.27	1.23	4.03
One-tenth bloom	1.83	1.16	1.44	4.45
Full bloom	1.78	1.18	1.26	4.22

The lessened yield of the alfalfa cut at the full bloom stage may be attributed to the dropping of the lower leaves due to leaf spot infection, injury to the shoots of the succeeding crop and possibly some translocation of stored materials to the roots before the cutting of the crop. The development of bloom in alfalfa varies greatly from season to season. It is not, therefore, as safe an index as to time for cutting as the young shoots." - Geo. Dungan, Crops Division, U. of I.

"Enrollment in Boys' and Girls' Clubs should be sent to the State Club Leader, at once as no member is entitled to exhibit at the State Fair or Central States Exposition unless his enrollment is in the State Club Leader's office on July 1, 1922. Do it now." - J. H. Baldwin, State Leader, Jr. Ext.

A Needed Help - "Practically all of my time has been given over to Red Cross work in flooded areas. The Farm Bureau office serves as a headquarter for practically all of the activities of relief. About 1000 bushels of feed corn, 30 tons of hay and 300 bushels of cowpea seed were distributed during the week. Some seed corn donated by Prairie Farmer readers has come in by express. Almost invariably this has been the highest quality of seed. It was largely used for cases where no seed was saved. The 90-day corn purchased by Professor Hackleman has not yet arrived but will be used for the last planting. Cut worms and army worms are doing a lot of damage and much replanting must be done." - Wheeler, Lawrence County.

"Water System for Every Farm - A water system to provide running water should be considered as necessary an equipment for efficient farming, as are implements. Running water saves labor for someone nearly every hour of the day, both in the home and in the barn yard. To the farm woman it not only means increased efficiency and a saving of energy, but often means better health and happiness instead of poor health and dissatisfaction.

The simplest means of bringing water into the kitchen is by the use of a suction pump connected with a shallow well or cistern. Such an outfit can be installed at very slight expense and is a good investment for any man who lives on a farm, whether he be a renter or an owner. With a little additional expense a storage tank can be provided to furnish water under pressure wherever it is needed.

To install a complete system to take care of all the needs, local conditions and requirements must be considered, the kind of power available, the number in the family, the water needed for livestock, the depth of the well, distance from the house, etc. all tend to affect the size and type of plant to install. If you have a special water supply problem you should take it up with the Farm Mechanics Department, University of Illinois, Urbana." - E. W. Lehmann, Farm Mech., U. of I.

"Seventeen-year cicada - Brood thirteen of the 17-year cicada is now appearing in great abundance in the northern part of the state. Warning of the appearance of this brood was given in the Extension Messenger of March 8. These insects do not cause any damage to field crops, their only injury being due to the egg punctures which they make in the branches of shrubs and trees. Where the adults are abundant they often cause many of the twigs to die and give the trees an unsightly appearance but rarely, if ever, cause serious injury except in fruit orchards. There is no spray or repellent wash that can be applied to the trees that will keep off these insects, the only method of combating them being to screen the trees with a cheap grade of cheese cloth or mosquito bar, and keep them screened for about a month during which time the adults are abundant. This method of protection is only practical on small trees. Adult cicadas may be killed by spraying with 10% kerosene emulsion, but this spray is likely to injure the foliage and could not be used on large trees. In using this spray it is necessary to wet the bodies of the insects in order to kill them." - W. P. Flint, State Entomologist, Natural History Survey.

"The young chinch bugs are coming out in great numbers. Mr. Chandler says we will have as many or more bugs than last year." - deWerff, Franklin County.

The Second Brood - "Reports began to come in the first of the week that the old chinch bugs were dying. On examining several fields where the infestation was heavy I have found this to be true. In some fields probably 95% of the old bugs have died in the last few days; however, in these fields they have a large supply of eggs already laid so that we are still expecting that we will have plenty of bugs to worry the farmers. The young bugs started hatching this week and in some fields there are a good many out." - Higgins, Moultrie County.

"Our New Shipping Association loaded two loads from Brownfield, Illinois, Wednesday afternoon. The value of the shipping association to the small farmer is illustrated by the fact that 18 different men had stock in this shipment, some having but a single veal calf. There seems to be no doubt that the association will have a wide field of usefulness in our county." - Kimmel, Pope Co.

Clip it at any height - "Henry Ridgway, of Aux Sable Township, has a good arrangement for clipping sweet clover. Mr. Ridgway removed the platform from an old binder, switched the chain to drive only the necessary parts and hooked on to the binder with his Fordson. The advantage of the binder is that the sickle-bar may be elevated to the desired height and run evenly. The reel was left on the machine and worked to an advantage. Quite a little sweet clover has been clipped the past week. Some of the clippings will be made into hay." - Longmire, Grundy County.

Summer Silage - "One of our men on May 29 filled his silo with a mixture of sweet clover and rye. The rye was sown into the young sweet clover last fall, after the crop of stubble hay had been cut from the sweet clover field. This seems to work in a satisfactory manner. The mixture was about 6 feet high, and was successfully harvested with a grain binder. The bundles were convenient to handle and the stuff looks like it will make very good summer silage." - Rehling, Clinton County.

Cooperation - "We have just closed a very successful campaign for the introduction of Democrat Corn and soybeans in Bond County. By the splendid cooperation of the farmers' elevators of the county we have put out near a thousand bushels each of these crops. The Farm Bureau has gotten in 560 bushels of the best varieties of soybeans. The local farmers' elevator parcelled them out to the men, charging only a few cents per bushel for the labor." - Tarble, Bond County.

Need of Nitrogen and Phosphate - "Soybeans on clay soil have changed the physical condition of the soil in a marvelous manner for one farmer. He will not seed an alfalfa hereafter unless soybeans have been grown on the land the previous year. On the same farm last October we spread dried blood in the winter wheat spelling out the word 'nitrogen'. Today this word is noticeable for a distance of 1/2 mile as it stands out in bold letters along a main traveled road. This has caused a great deal of discussion as to what the soil really needs, and should lead to a greater use of legumes.

Last fall a farmer having sandy soil that cements together badly drove two rounds with a phosphate spreader, applying rock phosphate at the rate of one ton per acre in winter wheat. He now claims that the wheat looks 100% better where the rock phosphate was applied, even though the soil is very low in organic matter. We doubt that acid phosphate would make a great showing." - Fuller, Marshall-Putnam County.

"Sweet Clover is becoming a valuable crop in the county. More sweet clover was sown this year than in the past ten years. The results obtained from pasturing and the value as a fertilizer has been the direct cause of the increased acreage. The winter killing of the alfalfa, especially the old seeding, will cause many farmers to cut the sweet clover for hay. In 1921 several farmers cut sweet clover for hay and reported that the dairy herd produced as economically as when fed on alfalfa hay." - Gafke, McHenry County.

A Difference - "The plots at the Central States Fair Grounds at Aurora demonstrating diseased and disease-free corn are showing a marked difference. These plots were hand planted by vocational soldier students from Mooseheart so that any variation in stand cannot be blamed on a poor planter." - Keepers, Asst. Ad., Kane Co.

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Don't take off your hat to the fellow who is doing the thing - take off your coat.

The Extension Messenger

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JUN 21 1922

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V.

June 14, 1922.

No. 24

Keep The Young Chicks Growing

"As hot weather approaches young chickens need some special attention if they are to continue growing in a satisfactory manner.

It is easy to forget this because the chicks are beyond the need of artificial heat and are foraging for themselves a large part of the time. Be sure that the roosting quarters are well ventilated. Too little fresh air at night may offset a large part of the gains made during the day. Some poultrymen are reporting excellent results from the use of a "forced roosting scheme" in which a low platform made of lath or hardware cloth serves as a roosting floor. This plan has the advantage that, even if they crowd at night, those chicks underneath can still get air and will not be smothered.

Keep the mash hoppers and drinking vessels in the shade. Do not expect chickens to stand out in the hot sun while they drink warm water. If possible feed the growing stock separately from the old hens. This assures them of a fair chance at the feed, and better growth will result." - L. E. Card, Poultry Division, U. of I.

Poultry Schools - "Six one-day poultry schools are being arranged for farm advisers as follows: Carbondale, July 6; Belleville, July 7; Springfield, July 10; Galesburg, July 11; Dixon, July 12; Urbana, July 18. Feeding, culling, and sanitation problems will be considered at these schools and part of the program will be to actually cull a farm flock. Professor Card will have charge of the schools." - W. H. Smith, Animal Husbandry Dept., U. of I.

Take Care of the Bulls - "Now is the time for county agents, field men, and pure bred breeders to look up those farmers who bought pure bred bulls this spring and see that they take the proper sort of care of their cattle during the hot summer months. Flies, heat, and short grass will make the best bred bull look like a "scrub", and a "scrubby" looking pure bred bull is a mighty poor inducement for a man to go on with registered stock. A little extra feed and care during July and August are absolutely necessary if young bulls are to grow out properly and young breeders are to be satisfied with their purchases.

Growing cattle should have some protection against flies and heat. This can be best furnished by a shed or barn with floors well bedded with clean straw and windows partly darkened with roofing paper or gunny sacks. Calves and bulls kept in such a place will rest easily through the day time, eating the grain and hay provided them in leisure and comfort. At night they should be turned out on grass to graze and exercise while the air is cool. By following such a plan, the animals continue their growth without interruption throughout the summer and avoid losing during July and August all the gains they made in May and June.

To induce a farmer to buy good cattle is but half of a good service. The other half consists in seeing that he takes good care of his animals so that they may reach that development to which their breeding entitles them." - Roscoe R. Snapp, Animal Husbandry Dept., U. of I.

"Grading and Packing Apples - There is being mailed to each adviser today a copy of the Illinois Apple Grading Law. Early apples will begin moving from southern Illinois points within two weeks, mostly packed in bushels. The Illinois law applies to apples packed in bushel baskets for it specifically states in Section 3 that a 'closed package means any package which is constructed in such a manner as to require the removal of the cover or head for an inspection of the contents.'" Briefly, the law provides that every closed package shall be marked, in letters not less than one half inch high, with the name and address of the grower or packer, together with the variety name and the minimum size of the contents. The manner of marking the package is optional with the grower. The rubber stamp is commonly used or brass stencils may be secured, which will doubtless be more durable and satisfactory. It is not economical to have too many stencils, for example, one stencil could bear the name and address, another the size, and another the variety. Obviously it would save time to make one stencil contain the whole story, but this might necessitate in some growers buying from 50 to 75 stencils. The standard bushel basket cover has slats about $2\frac{3}{4}$ inches wide. The stamps and stencil should be ordered with this in mind. Lastly, and probably most important, the packages must be faced with fruit which will fairly represent the contents. Stencils and stamps can be purchased from: Universal Stamp & Stencil Works, South Water St., Chicago; Wiley Stamp & Stencil Works, Peoria; Geo. B. Carpenter Co., 440 Wells St., Chicago; and H. Channon Co., Market & Randolph, Chicago." - W. S. Brock, Dept. of Horticulture, U. of I.

Not Many Wormy Apples This Season - "Due to the crop failure of 1921 and other natural causes the first brood codling moth is very light, so light in fact that unsprayed orchards in southern and central Illinois show less than two per cent wormy fruit. Under these circumstances it is doubtful if it will pay to apply a spray to catch the first worms of the second brood. The development of the codling moth will be closely watched thruout the season, and timely warnings will be sent out if later sprays are necessary.

It is very important to keep in mind the sprays for bitter rot in those orchards which are known to be infected, and to be on the lookout for the disease in all orchards in the southern horticultural section. Bordeaux 6-8-100 should be applied at intervals of ten days beginning July 1 until four applications have been made.

There is some indication at this time that blotch infection occurred much later than usual, and, therefore, some infection might still be taking place. It would be safe, therefore, to make one more blotch spray at this time. In view of the hot weather Bordeaux would be safer than lime sulfur." - W. P. Flint, Natural History Survey and W. S. Brock, Dept. of Horticulture, U. of I.

"University Plots and Herds on Show June 19-24 - Don't forget the University 'Open House' arrangement for this year. Visitors will find everything at its best that week. The wheat, rye and oats varieties are showing up well now, and by the 19th will be at the best stage for study. The corn plots will clearly show the effects of soil treatments. University herds will be ready for showing and the results of breeding explained. Professors and experimentors will be stationed at all points each day of Open House week to thoroly explain the work in all departments of the Agricultural College and Experiment Station. Every adviser should notify W. H. Young of the Agricultural College, Urbana, as to the day his delegation will be on hand, so proper arrangements may be made for taking care of all who come. Several delegations are already scheduled on each day except Thursday, June 22." - C. A. Atwood.

"Control of Potato Leafhopper - Now is the time to spray for the potato leafhopper. Remember this insect does more damage to the vines than the old-fashioned striped potato bug. They may be effectively controlled by thoro spraying with 4-4-50 Bordeaux, or with any good prepared Bordeaux, but the spray must be applied to the under as well as the upper sides of the leaves. From now until the vines die they should be sprayed every 10 to 14 days." - W. P. Flint, State Entomologist, Natural History Survey, U. of I.

Certifying Legumes - "The 22 members of the Clover Seed Growers' Association are taking a great interest in the field inspection work and seem glad to pull the weeds out of their fields when they are shown what should be pulled. I predict that we shall have some excellent alsike clover seed produced in Kendall County this year." - Price, Kendall Co.

Lime on Sand - "John Dickerson seeded some limed land and a check plot in sweet clover. May 1st no difference was noticeable. At the request of Mr. Dickerson a field meeting was held on his farm May 26. Clover on the check plot was very yellow, no nodules and thin. With lime, heavy growth, dark green color, many nodules. Field will be plowed in July and alfalfa sown in August. Many were converted to the use of lime on sand." - Merritt, Clark Co.

Lime Values - Thousands of acres of 100% perfect red clover fields may be seen in St. Clair County. On the other hand, many fields have only from 25% to 50% stand of clover. Inquiry invariably reveals that the good clover is due to the use of limestone. Therefore, the Farm Bureau people are proud of their record in the amount of limestone used during the three years of the Bureau's work, the grand total being 35,094 tons. Using University of Illinois facts as to the net value of limestone in crop returns to the farmer, the Bureau has brought \$250,000 in Agricultural wealth into the county." - Tillman, St. Clair County.

"A two-day alfalfa tour was held. One year ago ten bushels of Grimm alfalfa was distributed to farmers. Several of them put half of the field to Grimm and the other half to ordinary alfalfa seed that is sold by seed houses. Seventy-five percent of the common alfalfa winter killed while the Grimm came thru the winter 100%. A marked difference could easily be seen in the field where these demonstrations were carried on. All of the men but one who sowed Grimm alfalfa have a fine stand today." - Kline, Boone County.

Why Not Have This Sort of Meetings in All Counties - "An excellent farm bureau community meeting was held at Hooppole, Thursday evening, May 4. The main part of the program was furnished by local people. They gave talks on depth of planting corn, how to raise a good farm garden, and the McLean County system of hog sanitation." - Whisenand, Henry County.

"The strawberry crop has been unusually good this year and the price is higher than usual, all of which is stretching a big smile across the faces of the growers. The farm bureau has been encouraging an increase in the strawberry acreage for the future." - McGhee, Massac County.

War on Weeds - "During the month of June a campaign for weed eradication is being put on. It is hoped to get work started this season on getting rid of all the Canada thistles in the county. The main features of the campaign are the monthly calendar on weeds, an article in the Farm Bureau bulletin, articles in the local papers each week and a weed poster showing pictures of Canada thistle, buckhorn and quack grass placed in all the banks in the county." - Burns, JoDaviess Co.

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UNIVERSITY OF ILLINOIS URBANA, ILLINOIS

Vol. V

June 21, 1922.

No. 25

Management of Dairy Cattle In Summer

"Keeping up the milk flow and bringing the cows thru the summer in good condition are two serious problems confronting the dairy-men. It is not advisable to allow the dairy herd to run down in flesh. Too often this happens in late summer. The cows

freshen in thin condition and will not produce as well or as efficiently as cows that freshen in good flesh.

At this time there are many dairymen who are feeding silage or grain, or both, and they say it pays. It will pay even more next winter. The following grain mixture may be fed at the rate of one pound to every three and one-half to five pounds of milk produced a day, depending on the amount of milk produced and the condition of the cow: corn, 5 parts; oats or bran, 2 parts; oil meal, 1 part.

Flies are responsible, in a large measure, for low milk yields in summer and thin cattle in the fall. Cows should be protected from them as much as possible. One of the best means of eliminating the fly evil is to keep the cows stabled during the heat of the day, in cool darkened barns. Windows can be darkened by nailing building paper over them. Gunny sacks may be hung in the doorway in such a manner that flies will be brushed from the cows' backs as they enter the barn. Manure should not be allowed to accumulate around the stables, as it is an ideal breeding place for flies. Powdered borax sifted over manure will aid in their control.

Some fly repellent mixtures are effective for a short time. A home made spray may be prepared as follows: Dissolve one-half pound of soap in a gallon of soft water heated to the boiling point, and with it combine 2 gallons of kerosene. Churn vigorously and add 6 gallons of water.

During the busy farming season there is a tendency to neglect the cows. Regular milking periods should be adhered to as closely as possible, as any marked change in the management of dairy cattle usually results in decreased milk and butterfat production." - C. S. Rhode, Dairy Department, U. of I.

"The Use of the Two Row Cultivator - The two row corn cultivator is an implement which offers a chance for saving man and horse labor at a time when both men and horses are very busy. This year, in particular, it would seem that the use of this type of machine is advantageous, since corn cultivation is apt to be crowded into wheat harvest and hay making, due to the late planting of corn. If the corn can be laid by in good shape somewhat earlier than usual, the orderly handling of the various necessary farm operations will be facilitated.

Cultivation with the harrow or weeder after planting and while the corn is small, will enable the farmer to wait until the corn makes a good growth before starting the cultivator. In this way much of the annoyance caused by using the two-row in small corn can be avoided." - M. H. Watson, Dept. Farm Mgt., U. of I.

Are you a Worker or a Rester?

Saving the Pig Crop - "We have been giving demonstrations on farmer vaccination against hog cholera. The costs have not been higher than 29 cents per head in any herd and as low as 20 cents for double treatment. This is attracting more favorable attention than any project we have ever undertaken. Most of our veterinarians seem to be cooperating heartily." - Fuller, Marshall-Putnam Co.

"We began our work in demonstrating the method of vaccination for hog cholera recently. Mr. Edgerton of Rock Island County was with me. Two demonstrations were held. I am very much pleased with the outlook. The farmers are using great care and I believe that in teaching them to vaccinate their own hogs we are rendering them a very valuable service." - Keltner, Winnebago Co.

"Our Board of Directors last week signed the Standard Illinois Farm Bureau Serum and Virus contract with the American Serum Co., and will keep serum on ice in the office." - Brown, Stark Co.

Not to Handle Serum - "At a recent Executive Committee meeting it was decided that the Henry County Farm Bureau should not handle hog cholera serum and virus this year but should be in a position to inform members how to vaccinate and tell them where and at what prices reliable serum may be obtained." - Whisenand, Henry Co.

"Tuberculosis Demonstration - About 1000 folks attended a demonstration where four tubercular animals were slaughtered. One young heifer and two cows were in good condition apparently but when posted, tubercular lesions were found on all of them. This was one of the most convincing demonstrations that I have ever attended. Dr. Augspurger of the Bureau of Animal Industry assisted in the veterinary work. During the week 161 head of cattle were tested for T. B. and 73 (or 45%) were found to be reactors. So bad is the situation that the Farm Bureau has decided to put forth every effort possible to clean up the county. A federal veterinarian will no doubt be employed." - Kline, Boone Co.

Demonstration Teaching - "We forgot to mention that we took a party of men to sweet clover day at Waterloo, Monroe County, and one of them came home and bought 5 cars of limestone. That was about 3 weeks ago. All of the limestone is out and worked into the soil now. This man had used very sparingly of limestone heretofore. We had nearly a hundred people to Poorland Farm yesterday (June 9)." Tarble, Bond Co.

Field Meets - "We held a very profitable soil testing demonstration meeting in one of our communities last Friday. The meeting was called to meet at 2 P. M. on one of the farms in the community. We found several types of soil on this farm. The bulk of this acreage was a brown silt loam and found to be very acid. The owner had failed persistently to grow alfalfa on this land and did not know the reason." - Richards, Kane Co.

Problems - "This section of the state has many unsolved problems in grain growing. Soils that will grow clover in fine shape do not seem to yield the grain that they should. They are apparently rich in nitrogen and phosphorus and are not sour to any great degree. The soils that we speak of are bottom land soils from which a heavy growth of timber has been cut. Some of them are now drained and do not give the results that they should. No University experiment field operates under similar conditions. The Bureau feels the need of experiments but knows that it is the work of the University rather than of the Bureau." - Eastman, Pulaski County.

Bugs Again! "A few of our men sowed spring wheat this spring and now they are plowing it up preparatory to putting in beans. The spring wheat is very heavily infested with chinch bugs and has rusted so badly that I doubt if the fields would be worth saving even if there were no chinch bugs. If this dry weather continues I am afraid we will have a much greater damage from bugs this year than we did last." - Higgins, Moultrie Co.

"Have been making a survey of the county for chinch bugs. They are pretty bad in a few fields of wheat and rye in the west and southwest parts. They are also bad in three fields of corn and parts of these fields are being sown to soybeans. The bugs came in in volunteer wheat in the corn. These men are getting creosote for barriers in case the bugs move from the infested areas into the other corn." - Oathout, Champaign Co.

"A number of visits have been made to farms where chinch bugs are quite bad in corn. Quite a lot of damage is being done by this insect in all parts of the county. The worst infestation seems to be in the northeast and northern sections. We are urging those who have not finished planting or who are replanting to plant soybeans with the corn; or to use chinch bug resistant varieties of corn. Plans are being made to construct barriers to prevent movement of bugs from wheat to the corn." - Gougler, Adams Co.

"Many old chinch bugs have moved out of the wheat to adjoining corn fields. In some cases a dozen or two dozen of these can be found around some hills of corn. Ben Shaffer on the Piatt County line has 8 acres of corn following rye and the base of some of the stalks are completely covered with young bugs. He will plow this and sow soybeans." - Robbins, DeWitt Co.

"The trip to Hopkins' farm and the Odin Experiment Field was attended by five auto loads of farmers from Clinton County. Both the Odin Field and Dr. Hopkins' farm showed up exceptionally well. The two main features were the educational exhibits at Odin and the yield of legumes and wheat on the Hopkins farm on the fields that had not received any treatment for many years." - Rehling, Clinton Co.

"Ten farmers in Wayne County and the Farm Adviser drove to the Odin Experiment Field Friday to see the results of this field and the crops on Dr. Hopkins' Poorland Farm. This was a great picnic to the farmers of Wayne County because they had read about the Poorland Farm and always wanted to see it. They were much inspired by the results on this farm and no doubt it will improve some of their methods of farming." - Hufford, Wayne Co.

Apples - "On the whole we have perhaps as good or better quality of early apples this year than we have ever had. The Transparents, where well sprayed, will be extra fine and large. Competition seems to be fairly keen for these apples as buyers have been busy. It is hoped a goodly portion will be marketed thru the Illinois Fruit Exchange." - Doerschuk, Union Co.

"Fruit growers report that apples and peaches are dropping badly, some estimating that only about 1/10 of apples are staying on." - Gougler, Adams Co.

"The terracing work laid out by Prof. Lehmann was completed this week. A small tractor with a light grader was used, which proved to be a very convenient equipment for this work. Mr. Smith on whose farm this work is located has become an enthusiast for terracing." - McCall, Johnson Co.

"The Summer Farm Advisers' Conference will meet at DeKalb, Ill. on June 29. There will be an afternoon session at Elk's Hall at 1 P.M. and an evening session at the Normal School at 8 P.M." - C. C. Logan, Pres.

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JUN 28 1922

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V.

June 28, 1922.

No. 26

The Wheat

"At this time a high percentage of fallen straw will be found in wheat fields thruout central and southern Illinois. At first

Joint Worm

glance one would say that this was caused by Hessian Fly, as the appearance is almost the same. An examination of the straw, however, will show from one to fifteen hard knotty galls, containing yellowish footless maggots, the young of the wheat joint worms. These maggots are always inside the straw, while the Hessian Fly is always behind the sheath of the leaf. In some fields recently examined, as high as 99% of the straws contained young joint worms. There will probably be more or less confusion of the injury of this insect with Hessian Fly, and fly damage may be reported where it does not exist.

The best remedies for controlling the joint worm are: if no clover is sown in the wheat, cut the straw high and turn under the stubble any time during the late summer or early fall; if clover is sown with the wheat, it is better to cut the straw low, which will remove most of the galls, and then bale and sell the straw where it will be used in towns or cities. Be careful to burn all trash and refuse remaining around the stack and separator.

Under normal conditions the joint worm remains in the maggot stage in the stubble until the following spring, producing a brood of adults about the time the wheat begins to joint. These lay their eggs inside the plants and from them comes the next season's brood of maggots." - W. P. Flint, State Entomologist, Natural History Survey.

Recent Appointments

Worth W. Merritt began work as Farm Adviser in Clark County on May 1. Mr. Merritt is a graduate of Iowa Agricultural College and came to Illinois from the position of County Agent, Ralls County, New London, Missouri.

E. H. Riley became Associate Adviser of the Marshall-Putnam County Farm Bureau on May 8. Mr. Riley is both a graduate veterinarian and an agricultural graduate of the University of Minnesota. He has taught Animal Husbandry; has had 6 years experience in livestock work with the government; several years in state veterinary inspection work in Montana and has operated a farm of his own. He will give particular attention to livestock work, breeding, feeding, sanitation, hog vaccination and tuberculosis eradication.

E. L. Johnson, formerly of the Animal Husbandry Department of the University of Illinois, has accepted the position as Assistant Adviser in Macoupin County. He began work there on June 1. Mr. Johnson is a graduate of the University of Illinois, College of Agriculture, having received both his B. S. and M. S. at that institution.

T. H. Brock has been employed as Assistant Adviser in Christian County. Mr. Brock is a graduate of the College of Agriculture at Urbana, has farmed in Pennsylvania and Illinois and comes to us from County Agent work in Missouri. He began work May 1.

Keeping Down Weeds - "The weed problem is growing worse. Every year our attention is called to a new weed which is not common to the state or community. In a survey of the most noxious weeds in the State of Illinois, it was found that out of the 27 worst weeds, only six of these were native to the state. It is evident then that most of our noxious weeds have come from foreign countries, thru importation of impure seed.

The first way to keep down weeds is to buy pure home-grown seed, if possible. No method of eradication or control will be effective as long as weed seeds are purchased and sown on the farms. Likewise if the farm is already infested with weed pests, no amount of pure seed will eradicate them. The purchase of pure seed and eradication of weeds, already present, go hand in hand to bring about successful control.

Weeds pass thru five stages in their full development: viz: germination, seedling, active growth, reproduction, and seed stage. Thoro preparation of the seed bed and early cultivation of the crop, while weeds are in the germination and seedling stages, will make eradication easy since these stages are very weak in the life cycle of the plant.

In late summer after the harvest of small grains, weeds which have come into the active growth stage can be plowed under. Pastures and roadsides should be mowed when the plants are in flower, since this also is a weak stage in the life of the plant. Nothing can be done after weeds have produced seed except to burn over waste places so as to prevent further spread of the seeds." - John Pieper, Crops Dept., U. of I.

"Lightning Protection - The question as to the value of lightning rods for protection is one that is raised by many farmers each year. Investigations carried on in several states indicate that rods when properly installed give real protection. The lightning loss on rodded buildings is a very low figure compared with the loss on unrodded buildings. Some insurance companies recognize this and the insurance assessment on rodded buildings is less than on unrodded buildings.

It must be remembered that lightning rods give best protection only when made of proper material and when properly installed. Rods are made of copper, aluminum, and galvanized iron. Copper is considered best of all materials for this purpose. Combination of materials are not as desirable as rods made of one material. The best form of rod is made of strands of wire twisted or woven together into a cable. The most important requirement of an installation is to have the rods carefully grounded by extending them into the earth eight or ten feet. In the open country it is also well to ground wire fences by extending a wire, that is connected to each strand of fence, about three feet into the ground. The ground wire should be put in at intervals of 20 rods." - E. W. Lehmann, Dept. of Farm Mechanics, U. of I.

Convincing - "When using the soil test, an attempt was made to compare samples of soil taken along the roadsides, with soil from cultivated fields. Very frequently the samples of roadside soil were acid and the intended value of the comparison was lost. A different 'stunt' was tried this past week that seems to have real merit. The test for acidity was made in the usual way. After calling the farmers' attention to the color, which was usually a deep red, a slight amount of hydrated lime was put in the test tube or bottle and the contents again shaken. In all cases the liquid was clear after the dirt settled, indicating that the acidity in the sample had been neutralized. This demonstration arouses the farmers' interest and it has been very easy to tell him that limestone will neutralize the acidity of the soil in his field." - Bracker, Knox Co.

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The Bull Dog knows he'll win because he never lets go. He never lets go because he knows he'll win.

"Value of Legumes in Milk Production - Legume hays are especially valuable in the dairy ration as economical sources of digestible protein. Carrying a high percentage of protein, they reduce the quantity of protein supplements needed in the grain mixture and may thus materially reduce the cost of the ration, especially when grown upon the farm where fed.

Perhaps the second great advantage of legumes is that when grown for hay they yield several times as many digestible nutrients per acre as the non-legume hays.

Legume roughages promote desirable physiological conditions in the animal, having a slightly laxative effect and also being good conditioners.

Within the past few years it has been found that the supply of minerals, particularly lime, may be a limited factor in milk production. Legumes are much richer in lime than the non-legumes.

While the role of vitamins in milk production has not been fully determined, it has been definitely established that legumes are good sources of vitamins.

Some of the newer uses of legumes for dairy cows are the feeding of soybean meal, (after extraction of the oil), as a protein concentrate, and the employment of sweet clover as a pasture crop. Both practices are growing in favor. Among the many advantages of sweet clover as a pasture crop it should be pointed out that sweet clover produces a larger yield per acre and is more persistent in growth during dry weather than non-legume pasture grasses, and also contains a higher percentage of protein than do the non-legume grasses after maturity." - W. B. Nevens, Dairy Dept., U. of I.

"Sweet clover has done exceptionally well for us and we have a number of interesting demonstrations to which we will call the farmers' attention immediately after harvest. Mr. Frank Goodin of Pittsfield has 35 acres of sweet clover which he has pastured since April 9 with 28 head of mature cattle, 17 calves, 50 head of hogs and 4 horses. Sweet clover is gaining under these conditions every day. Mr. Goodin had rented a 70 acre blue grass pasture and now finds that he will not need it. His stock is in an excellent condition. Still some people say that stock won't eat sweet clover." - Kercher, Pike County.

"Tuberculosis Eradication - The President and Secretary of the Farm Bureau and the Adviser went before the Board of Supervisors to secure funds for a County Veterinarian. Considerable opposition was changed to a favorable attitude and the matter should be passed at the next meeting." - Burns, JoDaviess Co.

All Interested in Farming as a Business - "The Executive Committee of the Adams County Farm Bureau, Directors of Adams County Shippers Association, Quincy Cooperative Milk Producers Association, Western Illinois Fruit Exchange, Adams County Breeders Association, Adams County Cow Testing Association, Ursa Farmers Cooperative Elevator, and the LaPrairie-Chatten Cooperative Elevator, all dined together in the Rotary Club Rooms on June 17. Representatives of the various organizations gave short talks. Attorney Emory Lancaster gave an interesting talk on 'Farming as a Business'. Also a talk was given on the State Police.

There were about 65 men in attendance. The general sentiment was that more meetings of this kind should be called. An excellent way for the Farm Leaders in various parts of the county to get acquainted and get a vision of real agricultural problems." - V. Vaniman, SAsst. State Leader.

War on Ground Hogs - "Between 250 and 300 lbs. of Carbon Bisulfide (enuf for 3000 holes) have been used in Stark Co. in the war on ground hogs. In addition many men are making use of gasoline and the exhaust gas from autos and tractors." - Brown, Stark Co.

The Extension Messenger

A series of brief notes from the weekly reports of the Farm Advisers, College and Experiment Station Workers and the State Leader's Office

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JUL 10 1922

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

July 5, 1922.

No. 27

"Watch the Horse Labor Expense - Altho the cost of horse labor is not generally noticed as is the cash that is paid out for hired labor, yet it constitutes as real an item of expense, and amounts to from 30 to 40 percent of the operating expenses in running a farm.

The cost of horse labor per acre may be reduced by cutting down the cost of keeping horses, or by managing the work so as to have each horse take care of a larger area. The latter method probably offers the greater opportunity for improvement.

From 70 to 90 ten hour days constitutes the year's work for an average farm horse on grain and livestock farms. Between individual farms, variations from 40 to 120 days are common. The small proportion of the time that farm horses work suggests the possibilities and need for increased efficiency.

On an average, one horse takes care of 18 acres of crops, while a range of 9 to 27 acres often occurs. As a result of these variations the actual horse labor expense per acre frequently varies from \$4 to \$10.

Planning the work and adopting a good crop rotation are some of the important things necessary in order to secure low costs for horse labor. A reduction of the corn acreage from 60 percent to 40 percent of the crop area, and the substitution of fall grain in its place will in itself enable a farmer to do the work with two thirds as many horses, and get 50 percent more work out of each horse." - E. Rauchenstein, Dept. of Farm Mgt., U. of I.

The Small Threshing Machine - "There is one best time for threshing just as there is for planting and harvesting. Threshing when the grain is plump, sound and of good color makes it grade higher and brings a better price. Being able to thresh early and market the grain when the market is favorable usually means a great deal to the farmer. The price of grain usually fluctuates thru quite a range between harvests. The United States estimated average price by months for 1921 for wheat was - June 1.27, July 1.12, August 1.04, September 1.01, October 1.05.

Late threshing increases one's chances of loss by heavy rain and wind storms. There are always losses and shrinkages in grain when left to stand in the field longer than necessary. Some grain is shelled and is left on the ground, birds and rodents consume their share, and other sources of losses constantly menace the grain as long as it stands in the field. Early plowing in the fall is very important and the farmer who can thresh early has an advantage here.

Out of all these advantages there comes one big advantage appreciated by farmers - that of independence. With his own, or a community thresher available, a farmer can thresh and market his crop when he pleases, without reference to the convenience or shortcomings of any other man or set of men." - John H. Hedgcock, Dept. of Farm Mechanics, U. of I.



"32 Volt Electric Appliances - The average storage battery of a lighting plant will have no trouble carrying the required number of lamps, sewing machine, vacuum cleaner or electric fan. Such appliances as toasters, waffle irons or percolaters are heavy loads on a battery, but inasmuch as they are used for a relatively short period at a time, they too can be carried by any but the small batteries, less than 120 amp. hours. The third class of appliances, including the electric iron, small portable motor, and washing machines, place a very heavy load on a battery and are liable to injure it. These appliances are used for long periods at a time and would be a very heavy load for any battery under a 160 amp. hour (5100 Watt Hour). When using either of these machines it is good policy to run the generator at the same time and thus relieve the battery of the heavy work, for a motor that requires 15 amps. to run will frequently draw 25 and 30 amps on starting and that is a severe jolt for a battery to stand very often." - C. A. Scholl, Dept. of Farm Mech., U. of I.

"The Tragedy of Short Pasture - Since about $\frac{3}{5}$ of the feed consumed by the average dairy cow in Illinois goes to maintain the animal's body, only $\frac{2}{5}$ of all the feed consumed is available for milk production. The animal's body must first be maintained. Hence, if the feed is reduced 20%, the amount of the ration available for milk production is reduced 50%.

From these striking facts, we see the tremendous loss that comes from the reduction of the dairy cow's ration because of short pastures. This reduction for two months will wipe out the profit of the whole year with the average dairy cow.

What is said in regard to dairy cows applies with equal force to young and growing stock. An animal can make gains only from the feed consumed above maintenance." - W. J. Fraser, Prof. of Dairy Farming, U. of I.

"The poultry tour held this week, showing results which may be attained with an average farm flock was attended by 200 farmers and farmers' wives. Frank L. Platt, Editor of the American Poultry Journal, Dr. L. E. Card of the University of Illinois, and William Ostburn of the Prairie Farmer attended this tour.

Good types of farm poultry houses were shown and their merits pointed out. Incubation, brooding, feeding and care of young chicks were especially emphasized, as this is a timely season for that. Some outstanding results were shown, especially at Mrs. Ray Coop's, where 3050 chicks have been hatched from the eggs from a flock of 145 hens. Mrs. Coop's income to date since January 1 amounts to approximately \$975, with over 900 chicks still on the farm." - Longmire, Grundy Co.

"Our auto tour to the University was interfered with seriously because of the threatening rain which kept most of our men at home. Only 5 autos were in the party to visit the Agricultural College and Farm. Those who went were loud in their praise of the trip. The men at the Agricultural College had the trip well planned to see the most worth while things in the shortest time. Personally, I would like to spend two days in such a trip." - Belting, Shelby Co.

"Plans are under way for a rather intensive limestone, phosphate campaign in July. Our men complain that the financial situation of the farmer is such that he can't buy limestone and phosphate. Nevertheless we know that he can't afford to do without it in Edwards County and have hopes of being able to prove it to some of them." - Kelley, Edwards Co.

"The splicing of broken hay ropes is a service that is really appreciated. Seven have been spliced during the last week." - Brown, Stark Co.

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The Extension *Hesseltger*

A series of articles from the weekly reports of the Farm
Advisers, County and Experiment Station Workers, and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

July 12, 1922.

No. 28

The Farm Bureau
Decennial Celebration
and Pageant
Forward Farm Bureau

"The Decennial of the Farm Bureau in Illinois was very appropriately celebrated in DeKalb where the movement originated in this state. As Henry Parke was the central figure at the beginning so was he the moving spirit in setting forth adequately the achievements of the first

ten years.

The excellent addresses of H. H. Parke, Howard Leonard, E. Davenport, J. R. Howard, and Gov. Preus in the forenoon formed a fine introduction to the pageant in the afternoon. The committee in charge of the celebration was composed of representatives of the County Farm Bureaus, the Illinois Agricultural Association, the American Farm Bureau Federation, the Illinois State Association of Farm Advisers, the University of Illinois, and DeKalb County, Illinois. The Farm Bureau has never had a better example of real team work than in the staging of this pageant.

It was a great day. The weather was threatening but turned out to the advantage of the open air entertainment. The pageant proved to be the crowning event of the entire celebration. The Normal School grounds formed the vast stage and still larger amphitheatre. The city of DeKalb was crowded with representatives from all parts of the county and from the counties surrounding. Sixteen different counties had leading parts in the play and over 60 counties were represented in the final scene. 3000 people took a part in the play and 20,000 to 25,000 citizens of the state were both entertained and instructed by the vivid portrayal of the ten years' progress of the Farm Bureau. 7000 automobiles, by actual count, came thru the entrances to the city on that day. Among the vast throng were Governors, Congressmen, States Relations Service men from Washington, and the entire Executive Committee of the American Farm Bureau Federation, and the Illinois Agricultural Association.

The Farm Bureaus of Illinois have to their credit one of the cleverest productions in the history of agriculture in the state. The final scenes with a remarkable prophetic vision revealed the necessary steps in the further progress of the movement. To the economic development must be added the social, educational, and spiritual phases of the work. The Decennial Celebration recounted the achievements of the decade and closed with a hopeful forward look. Pageantry is coming into its own in Illinois. Many communities thruout the state may profitably follow the example so well set by the state-wide agricultural forces.

Congratulations to all the leaders on the spirit of cooperation brought about by the celebration." - R. E. Hieronymus, Community Adviser, U. of I.

First Farm Bureau Pageant - Pageants in the past have dealt largely with historical subjects covering periods of from 100 to 300 years. When I went to Jacksonville to secure the services of Miss Lamkin one question she raised was whether or not the farm bureau movement had background enough and whether sufficient material would be available to build a pageant. After she had been in the state three weeks it was a question as to what could best be omitted.

Illinois had demonstrated that a pageant may be used effectively to dramatize the work and development of a living organization and a present day movement." - J. D. Bilsborrow.

Our Pageant Director - The largest measure of credit for the dramatization and successful presentation of the Farm Bureau Decennial Pageant - Forward Farm Bureau - is due our director, Miss Nina B. Lankin. Miss Lankin's services were secured thru the courtesy of Community Service, Inc. of New York City, with whom she was under contract and who released her for two months to our general committee.

Her dramatic talent, organization ability, and engineering experience in staging pageants together with her dynamic personality was an inspiration to all who came in contact with her, and have won for her a lasting place in the confidence of Illinois farm people. May her last success bring to her the rewards to which she is so justly entitled." - Pageant Committee - Farm Bureau Decennial Celebration.

Comments from Others - "Farmers who attended the Decennial Celebration at DeKalb were very favorably impressed with the entire program. One farmer stated that it was the most perfect day he had ever spent." - Bracker, Knox Co.

"Friday the office all attended the Decennial Celebration and about 500 people from Lee County attended. The general comment of those who attended the celebration was that it was a great affair." - Griffith, Lee Co.

"Five people went from this county to DeKalb to the Farm Bureau Decennial. They thought it was a great event and worth going to." - Davidson, Brown Co.

"Mr. John Camlin, Pres. Ill. Chamber of Commerce, told me Friday that he had seen the pageant put on in Quebec as well as others but the one in DeKalb was the best of all." - Keltner, Winnebago Co.

"The Decennial Celebration was certainly an inspiring event. Two of our Executive Committeemen were with me, but I wish that it might have been possible for every farm bureau member - yes every farmer - in Clay County to have witnessed the pageant and to have heard the splendid addresses that were given." - Hart, Clay County.

"Probably 150 people from Kendall County attended the Pageant at DeKalb. It is to be regretted that probably two-thirds of the folks were unable to see and hear clearly what was going on." - Price, Kendall Co.

"The Decennial Celebration was a most commendable effort. The spectacular way in which the results were shown had a lesson in it for every observer. I feel personally indebted for the many fine ideas portrayed there. Farm bureau picnics, meetings, and fairs will be all the richer for this pageant." - Kendall, Morgan Co.

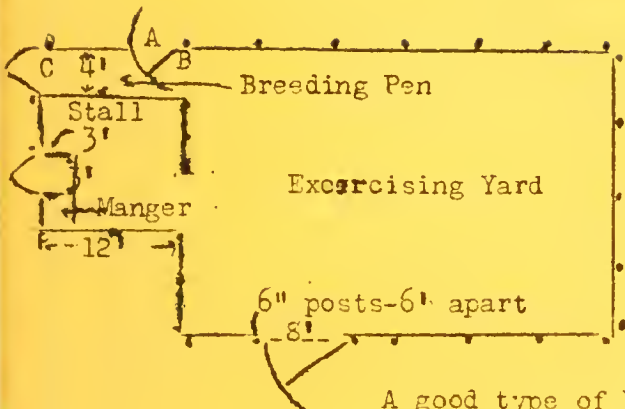
"I attended the advisers' meeting and Decennial Celebration at DeKalb. It surely was a big piece of work and well done in all details. Five of our Executive Committee attended." - Belting, Shelby County.

"The Farm Bureau Decennial pageant held at DeKalb had a number of representative farmers from Sangamon County present, the county being represented by an automobile covered with stalks of corn, wheat, oats and other grains which grow in this county. The float represented 'Seeds from Sangamon'." - Madden, Sangamon Co.

"The Woodford County Farm Bureau was represented in the DeKalb Decennial Celebration by a float calling attention to the seed corn improvement work which is being carried on by the Farm Bureau." - Mosher, Woodford Co.

"I enjoyed the Celebration very much and think that it reflected great credit upon all those who were in any way responsible for it. I believe it was the greatest agricultural pageant which has ever been held in this country." - G. N. Coffey





MANAGING THE HERD BULL - "The period of usefulness of the herd bull will depend in a measure on the way he is managed. Too many good bulls are sold to the butcher because they get cross and are hard to handle. If the bull shed, exercising yard, and breeding pen are properly constructed, the bull can be fed, and cows can be bred without handling him. Certainly the bull's quarters want to be strongly constructed.

A good type of breeding pen is shown in the above diagram. The cows are led thru Gate A. Gate B is then opened and the bull allowed to serve the cow. The bull is then forced back and Gate B closed. Gate C is opened and the cow led out. If necessary, a breeding crate can be placed in the breeding pen.

The bull should receive all the good legume hay he will clean up. Silage may be fed, but the amount should be limited. Grain should be fed in sufficient quantities to keep the bull in a good vigorous condition. A grain mixture consisting of 4 parts ground oats, 2 parts wheat bran, and 1 part oil meal may be used." - C. S. Rhode, Dairy Department, U. of I.

"Enriching the Subsoil - The need for enriching the subsoils of most farms is recognized. Deep-rooting legumes offer the best means of accomplishing this purpose, provided the acidity in the surface and subsoil is properly corrected and an ample supply of bicarbonates is present. Alfalfa and sweet clover are best suited for enriching the deeper layers of the soil. In order to use them successfully, it is necessary to recognize the translocation of plant food from the tops to the roots and later from the roots to the tops, particularly in the case of the sweet clover. The first year, sweet clover extends its root system and develops its tops until about the middle of autumn, after which the tops increase in growth for a short time only. The roots continue to increase in volume and in composition while the tops suffer a decrease in composition in nitrogen, phosphorus, and sulfur. Plowing sweet clover late in the fall will consequently leave large amounts of plant food in the subsoil. Plowing in the spring in preparation for corn will also leave large amounts of plant food in the subsoil. Results already obtained indicate that the roots begin extending before the appearance of the new tops. Alfalfa possesses the advantage of always being deep-rooted and containing at all times large amounts of plant food in the subsoil. It may be plowed at any time with the assurance that the subsoil has been enriched in organic matter and probably in nitrogen. On many soils, it is advisable to start the subsoil enrichment by the use of sweet clover, however, on soils already rich in the surface alfalfa may be used to advantage. The more resistant nature of the sweet clover to climatic and physical conditions makes its use more dependable in the initial stages of soil enrichment." - Whiting, Div. of Soil Biology, U. of I.

"A Story Worth Reading - If you have a quarter and a half hour of time buy and read in the July 'American', 'Six Greatest Men in History' as picked by H. G. Wells. It is an inspirational story that reveals some of the fundamentals of human progress as depicted in the lives and contributions of these great men." - Bilsborrow.

If you are in the right you can afford to keep your temper. If you are in the wrong you cannot afford to lose it.

The Extension Messenger

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JUL 26 1922

A series of brief notes from the weekly reports of the Farm
Advisers, College and Experiment Station Workers and the
State Leader's Office

Vol. V

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS
July 19, 1922.

No. 29

"Another Angle of the Fertility Question" - The statement is frequently made that crops growing in well fertilized soils will withstand drouth better than those in soils not fertilized. This is not due entirely to the larger water-holding capacity of the more productive soils; in truth, this factor may be of much less importance than the water-requirement of the crop. By water-requirement is meant the number of pounds of water taken up from the soil by a plant for each pound of dry matter produced in growth. The transpiration stream serves, among other functions, to carry the essential nutrient elements from the soil in the plant. It is logical to believe that with an abundant supply of available nutrients, the amount of water required to get them into the plant would be less than where the supply is meager. Experiment bears out this line of reasoning.

As early as 1850, Sir John Bennet Lawes carefully carried out experiments upon this question with the following results:

Crop	Water Requirement (In pounds per pound dry matter)		
	No Treatment	Mineral Fertilizer	Complete Fertilizer
Wheat	147	222	206
Barley	258	256	---
Clover	269	229	148

The water requirement was thus reduced by fertilization from 1 percent in barley to 45 percent in the clover crop and, with one exception, was greater than 10 percent in all cases.

Subsequently, no less than 25 investigators in France, Germany, Russian, England and the United States have carried out similar experiments, and all with the same results. The following quotation from Briggs and Shantz, based upon a detailed study of these investigations is of interest in this connection. 'Almost without exception, the experiments show a reduction in the water requirement, accompanying the use of fertilizers. In highly productive soils, this reduction amounts to only a small percentage. In poor soils, the water requirement may be reduced one-half or even two-thirds by the addition of fertilizers. Often the high water-requirement is due to the deficiency of a single plant food element. As the supply of such an element approaches exhaustion the rate of growth is greatly reduced, but no corresponding change occurs in the rate of transpiration. The result is inevitably a high water requirement.'

The fundamental principle here involved, especially emphasizes the importance of soil treatment as a means of increasing production in dry seasons." - E. E. DeTurk, Div. Soils, U. of I.

Want Steers? "We have several carloads of good grade Hereford and Angus steers, a large number of them yearling stuff weighing 400 to 600 pounds. Do any of your farmers buy direct instead of from markets? If so, get in touch with us." Jas. L. Robinson, County Agent, Bolivar, Tenn.

"Farm Earnings During 1921 - That farmers in east central Illinois made little if any money this year, is not seriously questioned by men who claim to be informed on the agricultural situation. Few probably would hazard a guess, however, as to how much they lost, where the greatest losses occurred, or why.

The results on 100 Woodford County farms in 1921 included in the accompanying table, we believe, answer some of these questions. While it is usually questionable to draw too general conclusions from specific data, the results on these 100 farms, if not wholly applicable, at least indicate what probably obtained on the majority of the farms, since these men and their types of farming are representative of the area.

It will be noted that the average loss (net farm income) was a negative \$615. That a large part of this loss was due to mark down in inventory values cannot be doubted. In fact, the average mark down in inventory value on the 100 farms amounted to \$797. That is to say, if only receipts and disbursements had been considered in calculating, the returns there would have been a positive rather than negative return on the average farm. This would have amounted to, according to these figures, \$182. per farm.

While it is not so evident from this table, an analysis of the individual records shows that the large farms on a whole lost more, relatively, than did the small farms. In fact, it appears that a man with a large business this year was penalized because of its size. This is contrary to established fact. As up to a certain point large farms would be expected to embrace economies in buildings, machinery and labor costs per crop acre not possible on the smaller farms, a more detailed analysis of these records shows, in fact, that the losses on the larger farms were not due to their being less efficiently organized but rather largely to inventory losses.

From the table it is not very difficult to see why some of the farms lost more money than did others. The better organization thruout on the best farm and the best ten farms unquestionably is responsible for the better showing. Information of this kind furnishes a reliable basis for the individual farmer to study and improve his business and likewise for the farm bureau to intelligently assist and direct him." - F. F. Elliott, Dept. of Farm Org. & Mgt.

Showing Returns on 100 Woodford County Farms - 1921 -

	Best Farm	Av. 100 Farms	Av. 10 Best Farms	Av. 10 Poorest Farms
Total Acres	160	193.5	205	219
Total Investment	\$62,908	\$64,861	\$67,469	\$78,242
Total Farm Income	\$ 5,810	\$ 2,427	\$ 4,619	\$ 1,262
Net Farm Income	\$ 2,761	\$ -615	\$ 1,468.50	\$ -2,932
Rate Earned	4.4%	-.95%	+2.1%	3.7%
Labor & Management Wage	\$ 266	\$ -3,262.	\$ -1569	\$ -6,226
Gross Income per Acre	\$ 36.31	\$ 12.94	\$ 22.55	\$ 5.83
Net Income per Acre	\$ 17.26	\$ -3.35	\$ +7.58	\$ 13.91
Operating Expense \$100 Gross Income	\$ 52.63	\$169.17	\$66.39	\$436.37
Buildings Expense per Crop Acre	\$ 3.09	\$ 3.69	\$ 3.27	\$ 4.58
Machinery Expense per Crop Acre	\$ 2.78	\$ 3.86	\$ 3.18	\$ 5.04
Labor (all) Expense per Crop Acre	\$ 6.82	\$ 7.56	\$ 6.90	\$ 7.56
Returns per \$100 Invested in Livestock	\$179.92	\$78.60	\$ 94.26	\$ 25.23
Percent of Total Receipts from " "	99%	51.1%	61.7%	46.1%
Crop Acres Worked per Man	100.	76.75	96.2	75.5
Crop Acres Worked per Horse	18.6	19.53	26.1	19.4
Crop Yields: Corn	63.0	55.4	58.3	54.9
Oats	50.0	34.7	41.8	37.4

Peat as a Source of Organic Matter - "Since 1915 the Soil Physics Division has conducted a field experiment to determine the effect of peat, in comparison with manure, on crop yields. The soil is predominantly a brown silt loam. The rotation is corn, oats, red clover, and wheat, with soybeans as a substitute crop when clover fails. All corn stalks, straw and other residues are removed. Application of peat, manure, rock phosphate, and limestone, as indicated in the table, were made for the 1916 and 1920 crops. The following table summarizes the results for six years, 1916-1921.

Plots	Treatment in addition to 1 T. Rock Phos. and 2 T. Lime- stone per Acre	Corn (Average for 6 crops)	Oats	Wheat	Red Clover (Average for 3 crops)	Soybeans
		Bu.	Bu.	Bu.	Lbs.	Bu.
1	Manure, 5 tons*	75.3	73.9	36.1	5023	28.5
2	Peat, 5 tons	71.9	75.6	38.7	4757	25.6
3	Check	71.3	73.1	38.1	4767	24.5
4	Manure, 1 $\frac{1}{4}$ tons					
	Peat, 1 $\frac{1}{4}$ tons	69.3	73.9	37.9	4933	25.0
	Composed 6 mo.					
	Aver. of Checks	69.4	70.6	36.6	4634	24.0
5	Manure, 1 $\frac{1}{4}$ tons					
	Peat, 1 $\frac{1}{4}$ tons	69.1	71.1	37.5	4583	23.5
6	Applied "As is"					
	Check	67.5	68.1 65.1**	35.1	4501	23.5
7.	Manure, 2 $\frac{1}{2}$ tons	69.8	64.9**	37.9	5138	24.6
8.	Peat, 2 $\frac{1}{2}$ tons	65.5	62.1	33.5	4291	23.6

(* All weights of peat and manure are on the basis of water-free material)

(**5 yr. average. Data for 1916 omitted due to damage by cattle on Plots 7 and 8).

The decreased yield of wheat on the heavily manured plot is the result of loss in harvesting due to lodging. The marked differences in crop yields on the check plots probably represent the natural variation in productivity since the soil on plot 6 is a typical brown silt loam, while that on plot 3 is a rather heavy brown silt loam to black clay loam. Because of this transition in soil type, the yields on plots 4 and 5 should no doubt be compared with the average yields of the two checks, rather than simply with the yields of the adjacent check, as should be done for plots 1, 2, 7, and 8.

Recommendations for the use of peat on the basis of these results could never be justified. Furthermore, there are no data available to show whether its use on a soil actually deficient in organic matter would produce more favorable results." - D. C. Wimer, Div. Soil Physics, U. of I.

"Our cooperative limestone crusher is operating and turning out about 20 tons per day. Some 200 tons have been pulverized. Many farmers will start alfalfa with this local stone this year. We are delivering the stone to the man's farm at \$2.50 per ton." - Baumeister, Stephenson Co.

The man who is sorry for himself is already half beaten.

The Extension Messenger

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JUL 31 1922

A series of brief notes from the weekly reports of the Farm Advisers, College and Experiment Station Workers and the State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

July 26, 1922.

No. 30

Help Us Identify Your Weeds

"In recent years the Farm Crops Division has been able to render a very important service to people thruout the state, and especially to farmers and farm advisers, by identifying weeds and grasses which are either new or uncommon. The number of samples sent in is increasing from year to year making it desirable to use all possible means to have samples sent in which can be easily and quickly identified. It is important that the sample of weed or grass reach the division in as fresh a condition as possible. Also since plants are difficult to identify in the early stages of growth, especially the grasses, it is better, if possible to have more mature samples. With these facts in mind and in order that the division may render a more efficient service the following suggestions are made:

- 1- Send all samples direct to the Farm Crops Division.
- 2- Send samples of plants in the flowering stage if possible.
- 3- Whole plants including roots, stems, leaves, flowers, and seeds are more easily identified than only parts of the plant.
- 4- Wrap the sample in a damp cloth or paper in order to preserve its freshness. After the sample is well wrapped, put it in a container which will not break or become crushed in the mail and tie securely.
- 5- Sender should write his name and address plainly on the package as well as on his letter of information. Often it is difficult or impossible to tell who sent the sample.
- 6- Sender should indicate by letter or otherwise what he desires to know concerning the plant, viz. identification, method of eradication, disease or insect injury, etc.

Mr. John Pieper, who has handled this work so efficiently for the past five years, will go to the University of Wisconsin for graduate study during the coming year. During Mr. Pieper's absence, Mr. Carney, who has been working under the direction of Mr. Pieper, will have charge of the weed identification work."- W. L. Burlison, Head of Agronomy Dept., U. of I.

"Begin Canada Thistle Eradication Now - Like most of the noxious weeds in the state of Illinois, the Canada Thistle is an introduction from Europe. With few exceptions, farmers have gotten their thistles thru the purchase of impure seed. The Canada Thistle will continue to propogate and thrive with these folks unless they put forth some effort to eradicate it.

Weed laws for the control of the Canada Thistle were enacted in some states more than a century ago. Illinois has a Canada Thistle law which provides for the cutting of these weeds before seeding time. She also enjoys a seed law which controls the purchase of farm seeds containing Canada Thistle seed. With these preventive agencies at work the farmer should proceed to rid his fields of Canada Thistles.

It is the experience of most authorities that Canada Thistles produce viable seed only rarely in central and southern Illinois, yet as we go farther north, seeds mature each year. This statement should not form a bulwark behind which

careless farmers might take refuge and refuse to obey the law regarding the eradication of Canada Thistles. Occasionally seeds are produced everywhere and it is this fact which should be kept in mind.

The Canada Thistle is a perennial and propagates both by seeds and by underground roots. The best time to start eradication is directly after a small grain crop. After plowing the land, so as to turn up all the roots, it should be thoroly disced. This will cut up the roots into very fine pieces and at the same time prepare a good seed bed. If any piece of a root is to live, it must send up a stem and produce leaves. The plant food for this growth must come from the stored up food material in the piece of root. Accordingly before the leaves have begun to function in replenishing the weakened root, the land should be disced again, so as to cut off the shoots. It is sometimes necessary to plow a second and third time if the plants cannot be controlled by discing. If this practice is continued until fall, most of the thistles should be dead. The following year the field should be put to a cultivated crop like corn and cultivated thoroly with the 'sweeper' or 'scraper' type of implement. The last thistle should be gotten with the hoe, since it is the most important." - John Pieper, Crops Div., U. of I.

An Error - In last week's Messenger, Page #2, there was an error in the last column of the table. The minus sign was omitted in the last figure under "Net Income per Acre". It should have read -\$13.91

"Handle Grain Without Loss - Wasting grain after it is in the shock is one of the factors that tend to determine loss instead of profit for the year's work. Each year many farmers lose considerable grain due to poor equipment and inefficient threshing. The use of tight bottom racks for hauling bundles will often result in a saving of several bushels of grain a day for each rack used. One of the greatest losses is the thresher. During the war, it was found that the amount of grain saved made it pay to rethresh many straw stacks. A few pointers to keep in mind to prevent this loss at the thresher are: uniform and not too rapid feeding, constant speed of the machine, proper adjustment, and a personal interest in the job. It is the greater personal interest in the job that often makes the small threshing outfit more desirable than the larger one." - E.W. Lehman, Department of Farm Mechanics, U. of I.

"IllinoisPoultrymen will be able this year to attend the Annual Convention of the American Poultry Association without spending a great many dollars on carfare. The meeting is to be held at Knoxville, Tennessee, August 8 to 12. A splendid program of events is being arranged. Details may be had from Thomas F. Rigg, Pres. 655 W. Third St., Fort Wayne, Indiana." - L. E. Card, Prof. of Poultry Husbandry, U. of I.

Galena Cooperative Creamery a Notable Success - "The first payment for butterfat, delivered to the new concern between June 19 and July 1, was made last week. The patrons received 39 cents per pound on the first statement. The cream station price for this period was 35 cents. 6652 pounds of fat were delivered the first 11 days of operation. One man delivered 189 pounds of butterfat. The increase of six cents per pound thru marketing cooperatively resulted in this man receiving \$11.35 more than he would have if he could not market it thru the cooperative creamery. This is \$1.03 per day, and at that rate, would mean \$376.68 in a year." - Burns, JoDaviess County.

Some New U. of I. Publications

"The Federal Farm Loan System", Circular #259, (20 p.) by Ivan Wright, gives all the details of the Federal Farm Loan system, from how to organize a local association, to paying off a loan.

"Recent Crop Yields From Soil Experiment Fields in Illinois", Circular #260, (8 p.) by H. J. Snider, compares yields according to soil types. Figures include average yields for the last crop rotation ending with season of 1921 on 22 experiment fields in Illinois.

"The Serum Treatment of Hog Cholera", Circular #261, (12 p.) by Robert Graham, discusses sanitary measures, diagnosis, immunization, use of serum and virus, and practical suggestions in connection with treatment of hog cholera.

"Bread Club Manual", Circular #262, (36 p.) by Kathryn G. VanAken and Harriet M. Phillips, is a thoroly illustrated circular giving the methods, directions and receipts for making bread, biscuits, muffins, waffles, pop-overs, and many other good things. It makes you hungry just to look at the pictures.

"The Organization and Direction of Clothing Clubs", Circular #263, (32 p.) by Harriet M. Phillips and Fairie Mallory, will appeal especially to the girls who likes to be "well dressed" and wants to learn to "make her own clothes". There are directions for organizing clubs as well as detailed suggestions of the projects, patterns and garments which are most desirable.

"The Production and Utilization of Manure on Illinois Dairy Farms", Bulletin #240 (20 p.) by H. A. Ross is now on the press. This bulletin gives the results of a study of a large number of dairy farms in relation to the amount of manure produced per unit, the distribution by crops, time of year and methods, as well as man and horse labor required for distribution.

Resignations and Appointments

Frank Hersman has resigned his position as adviser in Ford County effective August 1. Mr. Hersman is leaving the work to operate a farm he has recently purchased in McLean County.

George T. Swaim has been employed as successor to Mr. Hersman and will take up the adviser's duties in Ford County, August 1. Mr. Swaim is a graduate in agriculture of the University of California and has been managing the Convers land near Gibson City, Illinois.

Ralph Wells has announced his resignation as adviser in Warren County effective August 15. Mr. Wells has accepted a partnership in a farm loan business in Monmouth, Illinois. He is also perfecting the invention of a new sweet clover harvester and thresher.

Arthur A. Olsen at present county agent in Crawford County, Ohio, has been employed by the Warren County Farm Bureau to succeed Mr. Wells. Mr. Olsen graduated in Agriculture at the University of Illinois in 1917, was in the Ohio State University Department of Soils till December 1, 1917, then took up county agent work, which position he has held since that time. Mr. Olsen will join the ranks of Illinois advisers about September 1.

C. G. Starr has announced his resignation as adviser in Tazewell County effective September 1. Mr. Starr has accepted a position as manager of the 10,000 acre Wilson lands in Pueblo, Colorado. Hogs and cattle are the chief production of this estate. Mr. Starr will live in Pueblo, Colorado. A successor has not been employed as yet.

"Limestone storage is becoming popular with our people. Farmers living 12 miles from Thompsonville are planning to haul limestone from our bins at that place." - deWerff, Franklin Co.



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The Extension Messenger

A series of brief notes from the weekly reports of the Farm
Advisers, College and Experiment Station Workers and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

August 2, 1922.

No. 31

Tight "The plastic, impervious stratum known as 'tight clay' occurs in Illi-
Clay nois as the subsoil of three major soil types - the gray prairie and
Soil light gray timber types of southern Illinois and the brown-gray prairie of central Illinois. It also occurs in limited areas under brown silt loam and is not an uncommon terrace formation. It ordinarily occurs as an undulating stratum from eight to twelve inches thick and is underlain by a silty, non-plastic, yellowish red material.

As is well known, the impervious nature of this stratum to air, water, and plant roots makes it a very undesirable subsoil. Its plasticity and impervious nature are due to its high colloidal content and its chemical behavior indicates that this colloidal material consists of complex aluminosilicate molecules. It can be flocculated by lime and other flocculants, but the fact that the coagulum retains its gelatinous nature, together with the additional fact that this stratum is sometimes found heavily charged with carbonate, lends little encouragement to the idea that the nature of tight clay can be changed by the addition of lime or other electrolytes. No direct modification of the stratum can be expected to follow the surface application of lime, for this material moves down into the tight clay very slowly, if at all. Analysis and flocculation tests of the tight clay from treated and untreated plots on the Toledo field showed no difference.

Sweet clover roots penetrate the stratum and the continued use of this crop may eventually bring about a less impervious condition. However, considerable caution should be exercised in advocating the use of this crop for this specific purpose, for the evidence is not now available which would justify such a teaching.

The only suggestions which can safely be made at the present time regarding the management of areas having an impervious subsoil are to provide as good surface drainage as possible, and to make the surface conditions favorable for root growth by the use of sweet clover or other legumes, and by the use of lime and fertilizer treatments." - R. S. Smith, Div. Soils, U. of I.

Limestone Value is Proven - "One of our farmers has long been in doubt as to the value of limestone. On part of his field he spread limestone and on part of it he did not. It was all sown in red clover. The stand all over the field was good and he told me two months ago that the limestone did not do any good. I called at his farm one day this week and asked to see his clover field. The clover showed a very distinct line between the limed and unlimed part of the field. The clover was much ranker where the limestone had been applied. I made a test of the soil on each side of the limestone line. The limed soil showed no reaction while the unlimed soil reacted quickly. The farmer then said, 'Limestone sure makes a difference'." - McGhee, Massac Co.

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"A smile is heaven's remedy for curing discontent -
It's worth a million dollars and doesn't cost a cent."

Bagging Grapes - "For the home vineyard bagging grapes is desirable and profitable. The cost is small and the improved quality of the fruit pays well for the time and trouble. Grapes should be bagged as soon as the fruit is well set, about the time when the berries are about the size of a small pea. Two pound manila grocer's bags are the best to use for bagging. The bag must be pinned above the cane which bears the fruit and not tied around the stem of the cluster. Bagging serves to protect the clusters against birds, insect injury, fungi and the weather. Grapes when bagged are free from sunscald and other disfiguration, and present an attractive fresh appearance that gives the grower a fancy product for his own home use." - A. C. Nogeles, Associate in Pomology, U. of I.

"That potatoes may be raised with big yields in spite of insects and fungus growths, has been proven this year by the tests on three plots where yields ranged from 187 to 225 bushels to the acre on the farm of Chris Bischoff at Granite City. A car of highly improved seed was purchased from a northern grower and each tract in the test was given three applications with a high pressure spraying outfit with a three nozzle effect. One acre was treated with lead arsenate, the cost being about \$6. an acre. Pyrox was used on another field at a cost of \$6.12 an acre. A quantity of lead was used with the Bordeaux mixture on one application.

The acre on which lead was used yielded 187 bushels. The field on which Pyrox was used turned out 195 bushels. The best results were obtained on the Bordeaux tract where 225 bushels were produced. The lowest price received for any of the potatoes has been \$2.25 per 100 pounds or approximately \$1.35 a bushel. On this basis the Bordeaux acre has returns of \$304." - Landon, Asst. Adviser Madison Co.

Cull or Keep - "About 150 farm men and women attended the poultry culling demonstration given on Thursday by Dr. L. E. Card of the University. Four leg-banded hens, each of four different breeds, each illustrating an important point in culling, were placed in exhibition coops and after the general discussion, these birds were passed around so that each person present could 'cull' or 'keep'. A few of the ladies had perfect scores. The importance of proper feeding and its relation to culling were brought out forcibly by Dr. Card. The Hancock County Poultry Association was well represented." - Lloyd, Hancock Co.

Only the Layers Lay - The Others Lie! - "We have held seven poultry culling demonstrations this week and find there is considerable interest displayed. We are asking each person who has his chickens culled to keep a record of the number of eggs he gets a week before culling them, and a week after culling. He keeps this data on a little card which is provided by the University. Thus far, the number of eggs received from the flock before culling was the same as received from the good hens after culling. Some flocks have run as high as 70 percent culls. We are also trying to get each farmer that has these culling demonstrations to start feeding a balanced ration and keeping a record on the increased egg production." - Hufford, Wayne County.

"A corporation known as 'The Piatt County Soybean Cooperative Co.' has been organized largely by the efforts of the Piatt County Farm Bureau. The company is organized for the purpose of extracting the by-products of soybeans. The plant is under construction now - it is located at Monticello. Piatt County alone has over 10,000 acres of soybeans this year." - Watson, Piatt County.

"Elberta peaches are beginning to move in considerable quantities today. There is a large crop and the quality in many well-kept orchards will be fine. The crop seems to be a week earlier than usual." - Doerschuk, Union County.



Exit Ascaris - "We have recently given a larger number of worming demonstrations. We are using the new liquid vermifuge. Castor oil one gallon, Oil Chenopodium 8 ounces, and Chloroform 8 ounces. We are buying this in 25 gallon quantities and selling to the farmers for \$4 a gallon. A gallon will treat 128 fifty pound pigs so the cost is therefore very low. The administration of this remedy is done with a dose syringe and here it is necessary to give the farmer instructions. Dosing a pig is a simple matter, but like a great many other things, there is a little knack about it. While the administration of a vermifuge is somewhat equivalent to 'locking the door after the horse is stolen' it is the only thing that can be done at present. When you are instructing a farmer how to worm his pigs, you have a splendid opportunity to talk sanitation and McLean County system. This project seems to be about as popular as the vaccinating." - Edgerton, Rock Island County.

"Cooperate to get Threshing Coal - Tuesday was spent investigating the coal situation around Coal Valley. I met Mr. Edgerton there in the afternoon. Farmers in northwest Henry County as well as those in a portion of Rock Island and Mercer Counties depend for their coal upon wagon mines in the vicinity of Coal Valley. The bigger mines are worked by union miners who are on a strike. Only a part of the farmers have coal for threshing and obtaining it from small non-union coal banks is a slow process. By getting a few of our members and a few of the Rock Island County Farm Bureau members together to explain the situation to union officials it has been possible to obtain permits for the miners to bring out coal for threshing." - Whisenand, Henry County.

"In all 359 acres of Kanred and Illinois 10-110 wheat has been inspected and certified as approved seed. We hope to be able to supply other counties in Illinois at a nominal price. In our tests the Kanred apparently outyielded the Illinois 10-110 on most soils, altho the Illinois 10-110 resists lodging more effectively and therefore is desirable for the richer types of soils. We have about 1000 acres of these two varieties coming from the original seed shipped in by the Farm Bureau two years previous." - Fuller, Marshall-Putnam County.

"Soybeans and sweet clover are making headway in Cumberland County. Yesterday we had an auto tour to see these crops and 71 people in 19 cars made the rounds. Prof. Dungan of the University was with us and we are hearing good reports about Dungan today. One gratifying thing we noticed yesterday was the fact that Roy Lyons was plowing under 50 acres of sweet clover. In the afternoon Dr. Bauer, Prof. Snider, Prof. Dungan, and Mr. Lamb had the pleasure of talking to a crowd of 216 people, actual count." - Price, Cumberland County.

"Mammoth Clover seeded with grain last year and plowed under for corn this spring on the farm of Abner Thomas is showing up in the corn crop to be superior to the corn on the adjoining land that was manured. Mr. Thomas thinks that on land that is deficient in lime, mammoth clover will give better results for a green manure crop than sweet clover. There is no question but mammoth clover can be encouraged as a green manure crop under certain conditions." - Richards, Kane Co.

Stephenson County Membership Campaign - "One hundred sixty farmers attended the School of Instruction for the membership campaign at Freeport. They all ate dinner together at the Odd Fellows' Hall. From the way the men entered into the discussion and from the enthusiasm that was shown, there seems to be no question about the success of the campaign. One could not help but get the spirit that everyone present felt. They were glad to have the opportunity of serving on the campaign. They are progressing successfully with the drive." - Vaniman, Asst. State Leader.

The Extension Messenger

UNIVERSITY OF ILLINOIS
AUG 11 1922

A series of brief notes from the weekly reports of the Farm
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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

August 9, 1922.

No. 32

A Great Leader Passes

"After a protracted illness following an attack of influenza, Professor Walter Frederick Handschin died at his home in Urbana, August 1, 1922.

On

Professor Handschin was born in Calumetville, Wisconsin, January 10, 1880, was prepared at Wisconsin State Normal School at Oshkosh, then attended the University of Wisconsin 1903-1905. In 1905 he became Farm Manager of a Wisconsin farm and in 1907 Principal of a School of Agriculture at Marinette, Wisconsin. From 1908 to 1911 he spent at the University of Minnesota on the Animal Husbandry Staff and 1911 to 1913 in the same work at the University of Illinois, where he took his B. S. in Agriculture in 1913. He remained at the University of Illinois until his death. In 1914 he was made Vice-Director of Extension and since 1917 has also been Head of the Department of Farm Organization and Management, which department he has practically developed himself.

Professor Handschin leaves a wife and three children who will continue to reside in Urbana. His untimely death came as a severe shock to everyone. He was very widely known because of his extensive work in the field of Farm Management, a work which has been very highly appreciated. His many friends and associates will cause his memory and his work to live on, as is so vividly indicated in the many messages which are now being received from those who mourn his loss." - C. A. Atwood, Asst. State Leader.

"Does it Pay to Hold Wheat for the Market? The following table is reported from Bulletin 183, Illinois Experiment Station, page 26.

Gain from Holding Wheat and Oats for Highest Price (Cents per Bushel)

Crop	10-year average price for August	Price necessary to compensate for 1.5 percent shrinkage	Highest 10-year average price	Gain by holding for highest price
Wheat	92.3	93.7	106.3 May	12.6
Oats	37.8	38.4	43.4 May-June	5.0

Considering the ten-year period, it would seem to be profitable, so far as shrinkage alone is concerned, to hold small grain until the time of highest prices; but there are other factors, such as interest, conveniences in making delivery, condition of roads, cost of labor and storage, losses by rats and mice, and by insects (weevil, etc.), so local in character that only the individual farmer can give them proper consideration." - W. L. Burlison, Head of Agronomy Dept., U. of I.

"The Turkey 10-110 and Kanred seed wheat which we brought into the county last fall is showing up very well. In some cases we have had a direct check on it with other wheat and it has made from three to five bushels per acre more. In fact the large part of our bearded wheats seem to be better yielders than the smooth. The best yield received from the Turkey 10-110 was 35 bushels and the Kanred 33." - Gentle, Schuyler Co.

Pigs and Sweet Clover - "For several years the Illinois Station has used some sweet clover in maintaining the breeding herd and in growing the pigs. The sweet clover is sown on a well-prepared seed bed at oat-sowing time. By June 1 to 15 a growth of six inches is secured and the crop is ready to pasture. As many pigs have been pastured on sweet clover during the first year of its growth as on alfalfa, clover or rape. The pasture does not seem to be as palatable to all pigs as some crops, but as economical gains have been secured on this pasture as on rape or alfalfa. Usually, the sweet clover along with some weeds needs to be clipped during mid-summer. In the second year it is ready to pasture soon after the first of April. By the latter part of May the growth is so rank that little use can be made of it other than as shade for brood sows. Clipping or pasturing with other live stock would help to keep the growth within reach of pigs during the second year of its growth. Our experience would warrant the use of sweet clover for pasturing pigs, but the crop, when all things are considered, would rank below alfalfa, rape and clover for this purpose." - John B. Rice, Animal Husbandry Department, U. of I.

Get the Old Quack - "Quack grass like the Canada Thistle is a stumbling block for many Illinois farmers. It is one of the worst perennial weeds of central and northern Illinois. Like most of these pests it reproduces both by seeds and strong creeping rootstocks. Small patches of quack grass may be killed by covering with tarred paper followed by plowing and cultivation. This method is sometimes more economical of time than trying to dig them out. For larger areas, the land should be plowed three or four inches deep after a small grain crop or at a time when the plants are in their weakest stage. Just after the quack has flowered and at the time it is putting forth every effort to produce seed, is the proper stage to begin eradication. After plowing, it is often advisable to harrow up as many of the roots as possible. These can be burned when dry. The field should be disced and harrowed thoroly as often as growth begins. Should the grass get beyond control, it will be necessary to plow again. The depth of plowing can be increased a little. This practice should be continued until fall. During late fall or early spring the field should be plowed deep and later put to a cultivated crop. Thoro cultivation with the proper tools should eradicate most of the remaining plants. Some hoeing may be necessary to absolutely clean up the farm." - John Pieper, Crops Div., U. of I.

"Clean up the Peach Trees - Work with para-dichlorobenzene this spring has confirmed the results already published in Ent. Series Circ. 8. The results obtained in this state show that this chemical is by far the best and safest means of combating peach borers. All infested peach trees should be treated with this material this fall. Arrangements should be made now for obtaining a supply of para-dichlorobenzene to insure having it on hand at the best time for treating the trees, between Sept. 15 and Oct. 20. A partial list of dealers in para-dichlorobenzene is given in Ent. Series Circ. 8, which will be sent to anyone on request." - W. P. Flint, State Entomologist, Natural History Survey.

Co-operative Marketing - "We have now about 200 members in Wayne County in the red top growers' organization and they think there will be at least another 100 who will sign up. There is going to be a light crop of red top, but the seed will be a good quality. The seed buyers have already started the price at 16¢ per pound, more than was ever known in history. Last year they started it at 12¢ and after the pool was formed at Flora they finally got the price up to 17¢, while the people that were in the pool got 20¢. I think the seed will sell around 20¢ to 22¢ per pound before the season is over." - Hufford, Wayne County.

"Our T. B. eradication work commenced in earnest Monday, July 24, Dr. J. W. Ridgway having been employed to conduct the work in the county, Dr. Auspurger of the Bureau of Animal Industry assisting. During the past week 254 cattle were given the tuberculin test and nine reacted. On Thursday, a demonstration was held at Trimble at which time three reacting animals were slaughtered and posted. All of them showed tubercular lesions in which the people were much interested. About 1000 people attended the demonstration. All reactors remaining are being shipped out this week." - Logan, Crawford Co.

Good Results - "During the last week of July we supervised the vaccination of seven herds of hogs and gave instructions to ten individual farmers. To date we have used over 300,000 c.c. of serum and the reports to date show no abscesses. Hogs have been lost upon six farms but in all six instances the men had been losing hogs before vaccination." - Hedgcock, Peoria Co.

Richland plans Farm Tour before Picnic - "The local I. A. A. picnic committee extends an invitation to all farm advisers and farm bureau officers attending the annual picnic to come to Olney on August 22 - a day early. A farm tour of the county is planned in order to demonstrate farming opportunities of southern Illinois. Applications for hotel reservations should be addressed to the Farm Bureau office." - Piper, Richland Co.

"More than 350 farmers attended the all-day Field Meeting at Ewing on the 4th. That is the largest crowd that ever visited this field at one time. A very interesting set of exhibits was put up by Prof. Snider and his associates. Mr. Abney brought a bunch of Jefferson County farmers and Mr. Galeener brought several from Williamson County. Many of our farmers went home convinced more firmly than ever that limestone and sweet clover are the best friends that the Egyptian farmer has." deWerff, Franklin Co.

"The meeting of the Illinois State Horticultural Society was held in Calhoun County on Wednesday and Thursday. A large number of orchard men from this county were in attendance. During the two days meeting they visited nearly all the leading orchards in the county making a complete tour from the south end to the north end of the county. The men from this county who attended were greatly pleased with the meeting." - Kercher, Pike Co.

Membership Holds Standard - "The past month has been largely occupied with work on the clean-up of our membership campaign. 920 new contracts were signed and 349 held over, chiefly until Oct. 1922 and July 1923. Our membership last year stood at about 1275 while our present total is 1269." - Grunewald, Warren Co.

More Limestone by the Trainload - "We have been shipping limestone in and dumping it along the main line between Metropolis and Brookport. We have about three train loads yet to come, but we are holding back the shipments at present on account of the coal trains from the south. Farmers are being saved considerable labor by our plan." - McGhee, Massac Co.

"An intensive attempt has been made this week to start the development of orchards. A great deal of interest is manifested. So far we have the promise of 150 acres of peaches and apples. Others will be secured later. The orchard idea is taking root." - Kimmel, Pope County.

The Extension Messenger

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State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vcl. V

August 16, 1922.

No. 33

How to Properly Care for Your Magneto

"The first point to be emphasized in the care of a tractor magneto, is not to tinker with it as long as it works satisfactorily. The magneto is a complicated piece of equipment, but fortunately, will stand continuous hard use under most all conditions. The magneto must not be over-oiled. Three to four drops of a high grade light oil put in each of the two or three oil holes on the magneto, every ten days of continuous running, will be sufficient. Oil should never be placed on the breaker points or in the housing covering them. Oil, water, or dirt on the breaker points will stop the flow of current thru them. The carbon brush, on the high tension current or secondary distributor arm, rubbing against the distributor cap leaves a carbon deposit on the cap - causing a short circuit. Occasionally remove the cap and wipe off the carbon with a clean rag using a little gasoline.

At the lower front end of the magneto are two platinum breaker points, one stationary and insulated, the other movable. The current in passing thru these points causes them to heat and slowly burn away when separated by the cam. These points must fit squarely together over their entire surface and the gap between the points should be $1/64$ of an inch when opened the greatest distance by the cam. The points should be examined two or three times a year and if they have burned off causing a poor fit, file them down with a small flat file until they fit properly. Be careful to remove as little of the platinum as possible. After filing, the points must be adjusted to separate the proper distance. Use the magneto wrench and thickness gauge, $1/64$ inch, attached to it for this purpose. If the gap is much greater or less than $1/64$ inch a satisfactory spark will not be produced. If the magneto cannot be made to give a satisfactory spark after the above adjustments are made, the service of an expert should be secured." - R. I. Shawl, Dept. of Farm Mechanics, U. of I.

Shall I Seed Wheat in Corn? - "This is not a very common practice over the winter wheat belt of Illinois, tho in certain sections very satisfactory results have been obtained by seeding fall wheat between corn rows. Where corn has lodged badly, difficulty is encountered in seeding. Some farmers have gone so far as to go thru the corn and turn the stalks in the direction the drill is going so that they will be out of the way of the horse and machine. In the wheat belts of the southwest it was at one time customary to ride a horse and scatter the seed wheat in stalks, following up with a sixteen-tooth, one-horse harrow. It is wise, before attempting to seed from the back of a horse, to cover the animal's ears with an old hat. I have seen many fields yield 20 to 30 bushels of wheat per acre when seeded in this manner.

Practically no experimental work has been done on the subject of seeding wheat in standing corn. However, farmers in parts of central and northern Illinois report good results." - W. L. Burlison, Chief in Agronomy, U. of I.

"Soybean Growers Convene. Soybean Day will be observed at Columbia, Mo. Friday, September 1, with a program of special interest to all growers.

Illinois soybean growers will meet at the University Friday, September 8. W. J. Morse of the U. S. D. A. will be present at the Urbana meeting. Reserve this date and avail yourself of the opportunity of studying the experimental work now being carried on at the University with this important crop."--J. C. Hackleman, Crops Div., U. of I.

"Seed Corn Meetings Coming. September 11 to 15 has been chosen as the date for district seed corn meetings, starting in southern Illinois. The following is the schedule for these meetings:

September 11 - Southern Illinois

(Place to be selected)

" 12 - Springfield

September 13 - Galesburg

" 14 - Morris

" 15 - Urbana

A feature of the meetings in addition to the field demonstration will be a study of the results that have been secured thru corn disease control work. Mr. G. H. Dungan, in charge of crop disease work in the Department of Agronomy, will attend all meetings."--J. C. Hackleman, Crops Div., U. of I.

Publicity Brings Results

"The sixth issue of the Lee County Farm News was mailed out August 1. We feel from all reports that the paper has proven successful and believe it will be very much cheaper than the circular letter. Plans are being made at the present time to issue an eight page paper and it may be possible that four pages of the paper can be gotten out in connection with two or three other counties that are issuing or planning to issue a news sheet. In this way the cost can be lowered, advertising can be sold at better rates, and it is felt that a better paper can be put out all around."--Lee Co.

"This week we started a series of soil fertility meetings at which we tested samples of soil for acidity, discussed the Illinois system of fertility and use of limestone. The publicity part of the meetings is an important feature of the success of these meetings. The schedule of meetings has been published in our monthly bulletin and also in several of the weekly county papers. Post cards are also sent out from our office to reach the members a day before the date of meeting. The people are also urged to personally invite someone else to these meetings. I know of one instance where we had an attendance of 50 men that the telephone was used in addition the day of the meeting as a further reminder."--Belting, Shelby Co.

"Our series of 12 meetings held thruout the county was well attended, showing four reels of motion pictures, 2000 people attending. Great interest was shown in the meetings. Motion pictures get the whole family out when shown at country points. When women folks and all get to see them they talk it over at home, and between films is a real time to get a few ideas across to the membership."--Eyman, Jersey Co.

"Many people in Jersey County have expressed themselves that in their opinion the special Farm Bureau editions of our local papers had been the best piece of work ever done here to get the Farm Bureau idea before the people."--Eyman, Jersey Co.

Milk Marketing Makes Progress. "The general campaign work for getting farmers familiar with the new contract was started with a meeting near Union on Monday. Farmers were visited during the day and a meeting held during the evening. This plan was followed during the entire week. The farmers want an organization but do not know just what kind of an organization they want. No opposition is found to the new plan when the farmer understands. About 100 contracts have been signed to date."--Gafke, McHenry Co.



Picnics Well Attended

"Howard Leonard addressed 5000 people at our Farm Bureau picnic Thursday. The weather was ideal and the sports, stunts, etc. went off in good shape. One of the features of the day was a stunt planned to illustrate the value of 'pulling together'. A farm wagon labeled 'Hancock County' was loaded with 'knockers' variously labeled and accoutered, and a team of eight hard working Farm Bureau members was hitched to each end of the wagon. Of course the result was no progress, but when the two teams were hitched together the knockers could not even hinder the progress, and acknowledged defeat by climbing out of the wagon when the President of the Farm Bureau and a helper mounted the wagon and unfurled the 'Farm Bureau' banners."--Lloyd, Hancock Co.

"We had an exhibit at the county fair in a large tent with free notion pictures (agricultural) all week, which was visited by perhaps 5000 to 6000 persons. The livestock exhibit was the finest the county had ever had by far."--Davidson, Brown Co.

"Attendance records for picnics in Randolph County were broken August 10. 6000 people attended the Second Annual Randolph County Farm Bureau Picnic at Walsh. L. E. Corbin and Clifford Thorne spoke to an appreciative audience that afternoon. A saxophone band, quartette singing, solos, readings, county-wide horseshoe pitching contest, horse and mule races, tug-of-war and other events proved to be very interesting. Every event was hotly contested. In the evening five reels of moving pictures were shown. Farm Bureau members are well pleased with the results."--McWilliams, Randolph Co.

"Our first annual picnic was held August 5. It was the largest meeting of farmers the county ever witnessed. Judging from the enthusiasm shown our farmers are very much encouraged with their first year's experience."--Kimmel, Pope Co.

"The manager of the Mazon elevator reports two bad cases of Stinking Smut. The manager conservatively estimates that these men lost \$6.00 per acre by not having treated their seed wheat. The manager of this elevator also states that in his vicinity the early oats, mostly Iowa 103, are yielding 10 bushels more per acre and weighing 3 to 4 lbs. more to the bushel than the late oats."--Longmire, Grundy Co.

"Field demonstrations have been of great value in putting over certain projects. With the work on corn diseases for example, as much has been done in one year's time because of the demonstrations as could have been accomplished in five year's time if visualized methods had not been followed."--Bracker, Knox Co.

"Corn following sweet clover on the farm of C. W. Green near Kenney is as good looking corn as there is in the county right now. It is already making big ears and has a marvelously healthy appearance."--Robbins, DeWitt Co.

"We claim a record for service this week. Signed a new member at 1 o'clock P. M., tested his soil between six and seven and took his order for 30 tons of limestone."--Simpson, Gallatin Co.

Town and Country Play Together. "The Farm Bureau Executive Committee entertained the Rotary Club at a picnic at the Boy Scout Camp, just north of Lancy, Tuesday. The members of the Home Bureau served an excellent picnic dinner. Various games were enjoyed during the afternoon, all reported a very good time."--Gouglar, Adams Co.



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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

August 23, 1922.

No. 34.

Hitch Them

"Manure on southern Illinois soils cannot profitably take the place of limestone, neither can limestone take the place of manure. Limestone is used on these lands primarily to grow clovers, because clovers require a sweet soil and an abundance of available calcium, both of which are furnished by the limes. It would take practically 100 tons of manure to supply the same amount of calcium supplied by one ton of limestone. Four tons of alfalfa would use up the calcium furnished by 20 tons of manure, and 3 tons of red clover would take that from 11 tons of manure.

Together

Sometimes a heavy application of manure does temporarily sweeten a sour soil due to the ammonia formed during the process of decomposition. This condition is of such short duration that it is of little or no practical value to the farmer.

In no case on southern Illinois experiment fields, where the soil is sour and deficient in available calcium, does manure alone produce a satisfactory growth of clover. On the West Salem Experiment Field on land treated with manure, rock phosphate, kainit and limestone as a five year average, alfalfa made 3940 lbs. per acre. On adjoining land having identically the same treatment minus the limestone, alfalfa made as a five year average 220 lbs. per acre. This experiment is repeated with corn, oats, wheat and timothy and the results on these crops run in the same proportion as do the alfalfa yields. This is rather good evidence that limestone and manure should be used together on southern Illinois farm lands, and that neither should be considered as taking the place of the other."--John Lamb, Asst., Experiment Fields.

"Preparation of Ewes for Breeding Season. Flushing ewes tends to increase the number of lambs produced. A group of Southdown ewes belonging to the United States Department of Agriculture that were flushed dropped 18.1% more lambs than ewes that were not flushed. This practice has been followed and advocated for years by many shepherds..

Flushing is best accomplished by turning the ewes on a more abundant pasture 10 to 14 days before the beginning of the breeding season. This causes them to gain rapidly in weight and apparently makes them breed earlier than when flushing is not practiced. Good fresh bluegrass, timothy, mixed grasses, rape, or soybean pasture is good. One-half pound grain per head daily in addition to the usual pasture may accomplish the same result.

Have health, vigor, and moderate condition in the breeding flock and you are wisely preparing for a good lamb crop. If the sheep are raising a big tick and lice crop, you cannot expect a high percentage of lambs. One job is enough for any sheep."--W. G. Kammlade, Associate in Sheep Husbandry, U. of I.

"Wheat Variety Yields by Sections. Winter wheat variety trials conducted by the Illinois Agricultural Experiment Station on the Crop Production fields at DeKalb, in the northern section, Urbana in the central section, and at Fairfield and Alhambra in the southern section of the state, have demonstrated the value of certain varieties for their respective sections.

At DeKalb the high yielding varieties during the last five year period are:

Hardy Northern	32.8 bu. per acre
Red Russian	31.8 " " "
Minnesota Reliable	31.4 " " "
Wisconsin #18	31.2 " " "
World's Champion	29.8 " " "
Turkey Red	29.4 " " "

These are all bearded hard red wheats.

At Urbana, the commercial varieties which have made the highest yield during the last seven year period are:

Turkey Red	38.6 bu. per acre
Malakoff 5-460	38.1 " " "
Dawson's Golden Chaff 9-225	37.9 " " "
Minnesota Reliable	37.8 " " "
World's Champion	37.7 " " "
Indiana Swamp	37.7 " " "
Beloglina	37.1 " " "

These are all bearded hard red varieties, except Dawson's Golden Chaff 9-225. It is smooth and soft. Red Cross stands second as a smooth wheat producing 34.9 bu. per acre. It is a semi-hard wheat.

Kanred and Turkey Red 10-110 have been in these trials during the last five years. Kanred produced 37.7 bu. per acre and Turkey Red 10-110 produced 36.9 bu. per acre. The station strain of ordinary Turkey Red produced 37.2 bu. per acre.

The highest yielding variety at Urbana in 1922 is Clark's Black Hull, grown for the first time this season. It produced 46.7 bu. per acre.

The high yielding varieties at Fairfield during the past six years are:

Illini Chief	25.7 bu. per acre
Red Cross	25.0 " " "
Harvest Queen	24.8 " " "
Marvelous	24.8 " " "
Fulcaster	24.3 " " "
Jersey Fultz	24.0 " " "
Gypsy	23.3 " " "

The Marvelous, Fulcaster and Gypsy are bearded wheats, the others are smooth. All are semi-hard or soft. Marvelous and Fulcaster are different names for apparently the same variety.

Trumbull, a smooth wheat, is a promising variety for this section.

The yields obtained at Alhambra have until this year been low. The varieties having the highest average yield during the past three years are Fulcaster, Mediterranean and Illini Chief. They produced 20.9, 20.2 and 20.1 bus. per acre respectively.

Clark's Black Hull, grown for the first time this year, produced 33.7 bu. per acre and was the highest yielding variety grown at Alhambra."--R. W. Stark, Crop Production Div., U. of I.

Tazewell County has employed Ralph E. Arnett, now Associate Farm Adviser in Knox County, as the successor to C. G. Starr. Mr. Arnett was County Agent in Hendricks County, Indiana, for three years and has been in Knox County for the past two years.

Illinois Fruit Exchange Finds Markets. "Have been visiting orchards where they are picking and packing peaches all week. We find that most of the members are very enthusiastic over the Fruit Exchange and several men who would not join before joined at the last minute as they could not find a market without shipping it thru the Exchange. I think the Exchange is going to do a great deal of good, especially to the new grower. It has been much harder to get the old grower to pack his fruit properly and at the right stage of ripeness than it has the new grower. The growers who are just starting don't know how to pack and are willing to learn, while some of the old growers who have not been putting up good quality stuff still want to pack as they have been doing. A few orchards in the county have had such poor care that none of the fruit could be sold thru the Exchange. I think this will cause the men to take better care of their orchards next year."
--Blackburn, Marion Co.

Boys' Alfalfa Club. "We have just completed arrangements for a Boys' Alfalfa Club in cooperation with the Junior Extension Division of the University. Six boys will grow an acre of an Idaho Grimm and a Minnesota Grimm and an acre of common alfalfa seed side by side. This makes an excellent project for the boys and also makes it possible to try out Grimm against the common. One-half of the alfalfa area will be treated with limestone across the varieties, making it possible to test out the benefit derived from an application of lime on the land where the alfalfa is grown. This is a double header and we are planning to learn much thru the aid of the boys."
--Richards, Kane Co.

"The striking feature of our Farm Bureau picnic was that there were more non-farm bureau members attended than there were farm bureau members. This goes to prove, even though the farmers don't belong to the Farm Bureau, they are getting interested in farm bureau work. This was the first real farmers' picnic they have had in the county for some time. Most of the farmers went home feeling that they had had a good time and no doubt next year we will have three or four times as many people at the picnic."
--Hufford, Wayne Co.

"T. B. Testing Started. The farmers who applied for the Federal T. B. test in the vicinity of Stockton, have all been tested out by Dr. McDonald last week. The work in the vicinity of Elizabeth will be started the latter part of this week. A carload of cattle infected with tuberculosis were found as a result of the testing done at Stockton."
--Burns, JoDaviess Co.

"The first cattle ever tested under the Federal Accredited Herd plan in this county were tested this week by Dr. McKinney of Dr. Lintner's staff. The beginning was modest, only 97 head being tested. These all proved to be clean on the first test."
--Kelley, Edwards Co.

"Since starting T. B. testing on July 1, to date 9 cars of reacting cattle have been sent to Chicago for slaughter. Of the 701 cattle tested, 32.7% were reactors."
--Kline, Boone Co.

"The interest in tuberculin testing increases each week. In one community every farmer is making application for a Federal T. B. Test. Several applications were sent in from this community the past week."
--Gafke, McHenry Co.

Place Film Orders Now. Counties contemplating using U. S. D. A. films for fall and winter meetings should file application thru our office soon. The States Relations Service advise placing orders several weeks in advance of proposed showing to insure ample time for routing and delivery.
--J. D. Bilsborrow.

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State Leader's Office

MAR 8 1923

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

August 30, 1922

No. 35.

New
Director
Takes
Reins

Professor H. W. Mumford will assume his duties as Dean of the College of Agriculture, Director of the Experiment Station and Director of the Extension Service September 1. Dean Mumford will need no introduction to the farmers of Illinois because of his long association with the College as Head of the Department of Animal Husbandry and his two years service as Director of Livestock Marketing for the Illinois Agricultural Association. Dean and Mrs. Davenport will return to their old home farm in Michigan.

State Leader of Farm Advisory Work Appointed. Professor W. H. Smith, who has been Livestock Extension Specialist in Illinois for several years, has been appointed to succeed Dr. G. N. Coffey as State Leader and will assume his new duties September 1. Professor Smith is the senior Extension Specialist at the University, having served longer than any other man in the Extension Service. He therefore comes with a thoro knowledge of the work. Previous to having devoted his entire time to Extension, he was a member of the Agricultural College faculty and Experiment Station staff at the University of Illinois.

Welcome New State Leader. "The Extension Service welcomes the addition of Professor W. H. Smith to the administrative staff. Professor Smith's training and experience along Animal Husbandry lines and his contact with the Extension field as Extension Specialist have given him an excellent background for the responsibilities of the new position he is assuming. Professor Smith merits and will receive the undivided support and cooperation of everyone now in the Extension and Farm Advisory Service."--J. D. Bilsborrow.

The District Corn Meeting in southern Illinois, will be held in Belleville, Illinois September 11; other meetings as listed in Messenger #35.

The Wheat Joint Worm. The Joint Worm survey, carried on in southern Illinois in August, 1922 shows the following. The infestation by this insect varies greatly in the different wheat growing sections. This seems to be characteristic of the Joint Worm.

Jackson County	17%	Crawford County	46%
Randolph "	32%	Wabash "	14%
St. Clair " (American bottoms)	0	Williamson "	12%
Madison " " "	0	Massac "	0
Pond "	2%	Union "	8%
Effingham "	31%	Centralia vicinity	2%

Examination of the galls showed 49% of the worms killed by parasites. The prospect is for at least a moderate infestation next year."--S. C. Chandler, Natural History Survey.



"Approved Seed List. The final list of growers of approved seed wheat is ready for distribution by the Illinois Crop Improvement Association. This list carries in addition to the information given out on the preliminary report, complete information regarding the laboratory inspection of the samples of threshed grain.

This, the second year of the Association, has been very successful. A greater acreage of wheat was inspected than last year--thirty counties in all. Coles County heads the list with 2339 bushels of Turkey 10-110. Knox County heads in the production of Kanred with 7698 bushels. The wheat that is on the approved list this year is of higher quality than last year. The weights per bushel vary from 58 to 62 pounds. No wheat below 58 pounds was approved. Yields have generally been high, the best being approximately 50 bushels per acre. The demand for seed wheat is becoming more general and many of the growers are already having a good sale for their seed.

This final list is divided into three groups, those whose wheat passed inspection in the field and whose threshed grain met the requirements in the laboratory; second, those whose seed passed field inspection but who for some reason or another, have been unable to get a recleaned sample to the laboratory for a final inspection; finally, those whose grain failed to pass inspection, either on account of impurities found in the field or because the threshed grain failed to meet the standards. The list is available for free distribution to anyone who will write to the Illinois Crop Improvement Association, Urbana, Illinois. Several copies are being sent to each farm adviser."--J. C. Hickleman, Agronomy Dept., U. of I.

"Northwestern Dent Corn proves popular for hogging-down. Several farmers report that it was ready for hogging purposes 35 days after planting. The fields where it was drilled in are giving the highest yields. We recommend this variety only where hogging-off is desired. Yields are estimated about 50 bushels per acre."--Fuller, Marshall-Putnam Co.

"Delegations from three counties visited the county to look over farms where the McLean County System of Hog Sanitation is practiced. Two of the visiting groups drove a distance of 150 miles to reach the county, and representatives from the third county came 75 miles. Between 8000 and 9000 pigs were farrowed under the system this season."--Fahrnkopf, McLean Co.

"On Monday I visited the Chicago Producers Commission Company in Chicago and found that it is handling the business very well. There had been reports that this company was getting more business than it could handle but I am convinced that this is a mistake. The cattlepens are particularly well located right beside the south scales. While I was there they sold a number of lots of cattle fully as high as any sales at the yards for similar quality. As many as four or five buyers at a time were on hand. I waited an hour for an opportunity to talk to Mr. Stevens when he had no buyer on his hands. One buyer who bought a lot declared that he had never been able to buy a lot from the Producers before because they were too high. Another buyer bought a load and it was the first time he had ever been in the Producers' alley."--Robbins, DeWitt Co.

"Most of the week of August 19 was given over to making preparations for the Central States Fair at Aurora. The Farm Bureau took a major part in the Fair. We were represented with a Farm Bureau booth, a cow testing exhibit and a corn root rot and soybean variety plot growing on the fair ground. The diseased and disease free corn is showing marked difference now. The diseased corn has a 42% stand from 100% germination, the disease free corn 86% stand from 100% germination. In addition to having the exhibit, Richards is Superintendent of the Horse Department and Keepers is superintendent of the Boys' and Girls' Clubs."--Richards, Kane Co.

The I. A. A. Third Annual State Picnic was held at Olney, August 23. In spite of rain and sloppy roads about 6000 southern Illinois farm folks joined in the sport of the gala day. Good old chowder appeased the hunger of all the picnickers. Secretary J. W. Coverdale and Senator Harold Kessinger made the chief addresses. The DeWitt Horseshoe team--Joe Heskett and Ed Torbert won the tournament for the third consecutive year.

"Our third annual Peoria County Farm Bureau picnic was held in Bradley Park on August 19. Music was furnished by the Municipal Band of Peoria. Senator Harold C. Kessinger of Aurora gave an address which was appreciated by everyone. He brought out some very pertinent facts and used illustrations that everyone could understand. There was an attendance of 3000 or better. We had lots of dust, altho the weather was a little cooler than the previous days of the week. There were four chartauquas and an Odd Fellows' picnic on the same day, which of course injured our attendance to a certain extent. There was considerable interest in the Horseshoe Pitching Contest, which was won by Harris and Ed Doubet, second cousins, age 14 and 18 years respectively. On Tuesday Mr. Shaw drove to Olney, taking the two Doubet boys. They ranked second in the tournament, being defeated by the DeWitt County champions. We thought this was good for two chaps their ages."--Hedgcock, Peoria Co.

"The annual Farm Bureau picnic which was held Thursday, August 17, was attended by 2200 people. It was a very hot sultry day and a rather long dusty drive for many of the people to get to the grounds. Mr. J. D. Harper, Assistant Secretary of the I. A. A., gave a very good talk on the state and national farm bureau movement, outlining particularly the Livestock Producers Commission Association work. The picnic was held within two miles of the very northwest corner of the county. We would not ordinarily recommend going clear to one corner of the county for the picnic but the conditions were such that it was felt wise to do so this year. When the Farm Bureau began work seven years ago there were only eight or ten members in three townships in that corner of the county. There has been a gradual increase in interest with a rather rapid development of Farm Bureau sentiment the past year since Mr. Johnston has gotten two live clubs of boys at work in that territory. They asked for the picnic and we are sure that it did help to arouse the interest of a lot of folks in that end of the county in Farm Bureau work."--Mosher, Woodford Co.

"Our farm bureau picnic at Jerseyville Tuesday, August 15, was very well attended considering the heat, dusty roads and threatening weather. Mr. Denman, President of the Producers Livestock Commission Association, gave us an excellent talk. The picnic was worth the effort just for the messages he brought to our farmers. Mr. Phillips of Green Valley gave a fine talk also."--Eyman, Jersey Co.

"We had our annual farm bureau picnic at Fort Massac, August 16. The attendance was good. There were from 1200 to 1500 people present. Had it not been a rainy day there probably would have been 3000 present. The rain prevented many people from coming who were intending to come. The business houses of Metropolis were closed from 10 A. M. until 4 P. M. The farmers and business men spent a real day together. Most of our speaker were home men. There were one lawyer, one banker and two farmers on the program. We only had two outside speakers, Mr. Doerschuk and Mr. Kiest from Union County. We feel that much good has been accomplished from this meeting in that the farmers and business men had a chance to exchange viewpoints."--McGhee, Massac Co.

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SEP 16 1922

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

September 6, 1922

No. 36

Picking and Marketing Apples and Storage

"There is a tendency on the part of most amateur fruit growers to allow fall and winter apples to hang on the trees too long before picking. Apples to keep best should be mature but not ripe. Maturity is evidenced by the color of skin and seeds, and the ease with which the stem separates from the spur. In yellow or green varieties the color of the skin is no reliable guide and the other two factors must be the guide. The seeds should be brown but this alone should not be the deciding factor. In general red varieties should be picked when the color for that variety is normal, the seeds brown and the stem separates readily from the spur. Yellow varieties are more puzzling but under no circumstances should they be allowed to hang until ripe if long keeping is desired. On the other hand immature fruit will not attain high quality and in extreme cases will shrivel.

In picking, the stem should be separated from the spur by a slight twist. The buds for next year's crop are destroyed if the spur snaps off, and if the stem is torn out the fruit is more subject to decay.

Fruit keeps best if carefully graded and taken as soon as possible to a cool room and kept there until the ripening process is complete. This should be in a cool, well ventilated room with a moist atmosphere. For this reason a cellar with a dirt floor is much better than the modern concrete lined basement. In this latter type of storage room fruit will shrivel even tho the temperature is kept at the lowest possible point. The correct temperature is about 40 degrees F. For cellar storage, slat crates holding about one bushel are better than tight packages which are only used in artificial storages." -- W. S. Brock, Department of Horticulture, University of Illinois.

"Select Seed Corn from the Field. The best corn is produced on strong healthy stalks. Seed corn should be selected at a time when the parent plant of each ear could be examined. The most satisfactory time to do this is when the husks of the ears are brown and the leaves and stalk of the plants are green. If seed is not selected until after a killing frost or until the stalks and leaves are completely dead, there is no way of telling whether the plant matured normally or was ripened by injury from disease. Then to, disease causing organisms develop rapidly in dead plants, especially during warm moist weather, and if seed is not selected until after the corn plants are ripe, the chance of obtaining healthy seed is greatly reduced.

Fully matured ears supported by strong shanks on upright sturdy stalks have shown greater vigor and more resistance to the rot diseases than seed from any other type of plant. Weak and broken shanks almost always carry ears that are undesirable for seed because of disease and poor yielding ability. Broken stalks and plants leaning because of weak root systems are usually diseased. White streaks in the blades or an unusual amount of firing is also a symptom of weakness. The best seed ears are well covered with husks over the tip. Care-

ful selection of seed corn from the field is the most important first step in insuring a good corn crop next year." - Geo. H. Dungan, Crop Production Division, University of Illinois.

"Improved Method of Packing Eggs. A saving of from 50 to 75 per cent in damage to eggs in transit amounts to a very large sum in a season, particularly if several hundred cars are involved. When this saving can be effected at an additional expense of only a few cents to the case, entirely by proper packing, the egg producers of the country should immediately be interested. Damage to egg shipments is preventable to such a large extent under the best modern conditions. At experiment stations, the great shipping companies everywhere and the farmers generally are cooperating with the railroads in a nation-wide effort to shut off losses which have been a source of so much expense and irritation in the past.

The American Railway Association thru its freight claim prevention department believes that the answer to the egg breakage problem has been found in the excelsior pad. This is not a trade name. The pad, as its name indicates, is made of ordinary excelsior but in such a way that it is very nearly perfect in preventing damage as contrasted with loose excelsior. Egg damage and subsequent claims for losses have grown to such proportions that specialists were assigned to provide a remedy. It was determined that the chief cause of breakage of eggs in transit was the loose pack which allowed the fillers to shift and shuffle about in the case, then bending or breaking the tips of the fillers and permitting the eggs to come in contact with the sides and ends of the case. Experiments have shown that six pads used in each case, three in each of the two compartments, produced just enough pressure to hold the eggs firmly in place and relieve the pressure on the filler tips. One produce company in Michigan reports that its damage claims in 1920, while loose excelsior was used for packing, amounted to \$600.00, while in 1921, when the pads were used, these claims were reduced to \$23.40.

The excelsior pads cost the shipper about one cent a piece or six cents to the case. Produce companies in all parts of the country are reporting a saving from 25 to 80 and even 100 percent when the six excelsior pads are used, one at the bottom, one at the top and one under the top layer in each side of the case. Some shippers report handling from one to two hundred cars of eggs without any damage whatever under this system of packing." - Chas. Dillon, Ass'n. Ry. Exec., Chicago.

Let's Think It Over Before Next Spring. - What about the Oats Crop? Is it paying? A review of crop reports from Illinois for the last 50 years raises pretty sharply the question, does the oat crop pay? From the best figures available, it does not seem to pay. It is quite clear that part of the oats crop can be replaced by soybeans or winter wheat and possibly barley in central Illinois. This appears to hold true for the northern part of the state. - W. L. Burlison, Head Department of Agronomy.

"Novel Exhibits. The Rock Island County Farm Bureau have had an exhibit at the County Fair at Joslin this week and the Farm Bureau headquarters were moved to the Fair Grounds for three days. Features of the exhibit were: A Purebred Holstein cow that had reacted to the T.B. test. She was a nice looking cow and had been the favorite of the family, her milk had been saved for the children to drink. A number of people were surprised that she could be in such good flesh and yet have the T.B. On the opposite side of the tent were pens of pigs, one suffering with Enteritis, one Bull Moose, one Dermatitis and one with worms, then in the last pen was a nice big fat pig that had been kept in a nice clean lot and had its pen padded with clean sweet clover, this little pig went to market and

the rest stayed at home. A Rogue's Gallery consisted of weeds that we should be-ware of. The Legume and limestone display consisted of the Legume Boys, Willie Soy Bean, Timothy Red Clover, Johnny Alfalfa and Sammy Sweet Clover, these boys make dandy hired men because they need nothing but limestone to make them grow." - Edgerton, Rock Island Co.

"Grundy Won First Prize. The Grundy County Farm Bureau made an exhibit at the Central States Fair at Aurora on sweet clover and related subjects. This consisted of samples of common, Grundy County, yellow blossom and Hubam sweet clovers, sweet clover seed, sweet clover honey, baled sweet clover hullings, sweet and sour soil and agricultural limestone, sweet clover photographs and samples of various sweet clovers secured under different conditions. Our exhibit received first prize of ten counties exhibiting."- Longmire, Grundy Co.

"T.B. Demonstration Effective. We held our third annual farm bureau picnic August 21, with an attendance of 3000 which was curtailed on account of a three hour's rain during the day. We had a tubercular carcass demonstration at the picnic which has caused more comment than any demonstration that we ever held. The cow slaughtered came from a herd in which there were found 13 out of 14 reactors. The carcass disclosed tubercular lesions in many parts of the body. We hoped to have aroused public opinion to the point that a federal veterinarian will be employed at public expense. The wife of the farmer owning the tubercular cow died of tuberculosis a few years ago and at the present time the daughter is in Arizona to regain her health from this dreaded disease. This farmer shipped his entire herd of cattle to Chicago within two days after the carcass demonstration."-Fuller, Marshall-Putnam County.

"Supervisors Appropriate \$4,000. The T.B. Committee of the Farm Bureau met with the supervisors and asked for an appropriation of \$3,000. They set aside an appropriation of \$4,000 to the Farm Bureau to be used in the eradication of Tuberculosis." - Kline, Boone Co.

"Two caponizing demonstrations held recently showed our members that this work can be done on the farm without the services of an expert. Several sets of instruments were ordered by our members who plan to do this work for themselves." -- Whitchurch, Saline Co.

"We held eight poultry culling and caponizing demonstration meetings with an attendance ranging from 25 to 60 persons. The interest has been very good at all of these meetings." - Belting, Shelby Co.

"Phosphate Pays. The wheat fields which were phosphated yielded $22\frac{1}{2}$ bushels per acre, while on the same kind of land which was not phosphated, the yield was only 10 to 12 bushels per acre." - McGhee, Massac County.

"Club Winnings. Four of our boys and girls belonging to the Poland China Pig Club exhibited pigs in the Aurora Fair, and won second, third, fourth and seventh places. Also two of the boys in the Duroc-Jersey Pig Club exhibited their pigs at the Aurora Fair and won sixth and seventh places besides winning tenth place in the Futurity on the pigs that they fed out." - Hedcock, Will Co.

C. S. Love of Champaign County has been employed as Assistant Adviser and Club Leader in Vermilion County to succeed C. W. Brown, who recently resigned. Mr. Love is a graduate of the University of Illinois and has been farming near Sidney. He began work September 1.

The Extension Messenger

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Advisers, College and Experiment Station Workers and the
State Leader's Office

SEP 10 1922

Vol. V

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

September 13, 1922.

No. 37

Harvesting with Livestock

"For a number of years it has been a common practice to harvest corn with livestock. At first it was 'hogged off', but later trials were made with sheep and cattle. So successful were these experiments, that small grain crops were harvested in the same manner and with equal success. During the war when labor was scarce, high priced, and often inefficient, the farmer who harvested with livestock had a great advantage over one who did not, and the experience gained from necessity of economizing on labor has introduced a new system of livestock farming that has become very popular and profitable. In fact, it was the determining factor of profit or loss on many corn belt farms in 1920 and 1921.

One Illinois farmer whose records have been given wide publicity was able by harvesting with livestock, to operate his 140 acre farm for five years with a yearly outlay of \$45 for labor other than his own. (There was no family labor included in this proposition.) No twine is necessary - no harvesting machinery required - there is no threshing bill or fuel for threshing, and lastly and of great importance, unfavorable weather has no effect. Man and horse labor make up from 60% to 80% of cost of producing farm crops. By doing away with this labor bill for harvest and threshing, a great saving is made.

As this practice became more common, combinations of crops were tried: soy-beans, rape or clover were seeded in the corn, then later a grass mixture with rape in the grain crops, until now the length of the pasture season on stock-harvested crops has been extended from a few days on ripe grain, to at least a four months' period on the oats pasture-mixture so commonly used.

For some time oats as a field crop has been grown at a loss in this state, yet during the same period of years, an oats pasture-mixture has been profitable on the same farms where the grain crop was a financial loss, simply due to the fact that the livestock harvesting of the crop did away with high priced man and horse labor." - R. L. Donovan, Farm Management Dept., U. of I.

Hessian Fly Dates Unchanged - "Judging from the data on hand there would be no change in the fly-free date of seeding wheat this season from that given in the Agricultural Hand-Book. It would seem advisable not to sow wheat before given dates and to have wheat planted as soon thereafter as possible." - W. P. Flint, State Entomologist, Natural History Survey, U. of I.

"A Tri-County Fair representing Hancock, McDonough, and Henderson Counties was held in La Harpe this week, and the greater part of our time was spent in assisting with various activities connected with the Fair. The livestock exhibits at the Fair were especially good, both the cattle barn and the hog barn were filled to overflowing and it was necessary to provide extra space under tents to take care of a large number of entries." - F. M. Bane, Henderson Co.

Don't borrow trouble even if you have to go without it.

"The Proper Method of Sampling Cream - A good many cream producers are from time to time sending samples of cream to the Department of Dairy Husbandry, requesting fat determinations for the purpose of checking up cream buyers. Many of these samples not only arrive in a very unsatisfactory condition, but in addition they are not truly representative of the cream from which they are taken. Consequently, if the tests of such samples are used to 'check up' cream buyers, difficulties are sure to arise.

A sample of cream should never be taken as the cream comes from the spout of the separator. The results of such samples are worthless. The whole can of cream that is to be sold, should be stirred thoroly with a stirring rod which has a disc on the end of it, and the rod should be long enuf to reach to the bottom of the can. If such a rod is not at hand, the cream can be well mixed by pouring from one can to another at least four or five times. If the cream is extremely viscous, which is often the case with rich cream that has been kept cool, the whole can of cream should be warmed slightly (stirring the cream while warming it), in order that the cream will become liquid enough to mix properly. (If the can of cream is warmed, it should be cooled again before being shipped or taken to the cream buyer).

After the cream in the can has been thoroly mixed, a 2 to 4 ounce sample can be taken and placed in a wide mouthed bottle or a small glass jar having a screw top. (A clean vaseline or small cold cream jar is quite satisfactory.) The jar or bottle should be filled as full as possible so that the cream will not churn during transit. The stopper or cover should fit tight, eliminating the possibility of leakage. This container should then be placed in a mailing tube or small wooden box, and properly addressed to the Department, giving also the name and address of the person sending the sample. A letter should also be written to the Department at the time a sample is sent it. This care will permit an accurate test to be made." - H. A. Ruehe, Dept. of Dairy Husb., U. of I.

"The third annual Farm Management Tour conducted by the Woodford County Farm Bureau was held September 8. It was a decided success and developed the keenest interest ever shown in an extension project in that county. Over 50 autos made the trip carrying from 200 to 250 people. Eight farms where the simple farm accounts had been kept, were visited. At each place some definite farm management principle was brought out, the practice of which had resulted in financial gain for the farmer. The trip included a visit to the Minonk soil experiment field where the increased crop yield resulting from crop rotation and soil treatment was noted.

It was again demonstrated that much of the success of the tour was the result of careful planning by Mr. Mosher and his assistant Paul Johnson." - R. L. Donovan, Farm Mgt. Dept., U. of I.

Keeping Check of the Work Distribution - "One of the best follow-up schemes that we have tried is a wall map of all the townships showing the distribution of farm visits and meetings day by day. If it were not for this map, some townships would have more than others, two or three are far below the average as it is. We shall endeavor to work with the leaders in that township to make a greater use of the farm bureau." - Fuller, Marshall-Putnam County.

Don't Leave Money in Desks - Recently the Pecria County Farm Bureau Office was broken into, the desks were opened with a bar, the tin cash box was pilfered and over \$45. in stamps and money were taken. \$50. of this was membership dues paid late Saturday afternoon after the banks had closed.

"Residual Effects of Limestone" - The question, 'How long will an application of limestone last', is of special interest to the Southern Illinois farmer.

In the spring of 1902, 5 tons of hydrated lime per acre, equivalent to 5400 pounds of calcium, were applied to certain plots of the DuBois Experiment Field in Washington County. No lime has been applied since. Now, after 20 years, there are found 1820 pounds more of calcium in the surface soil and 285 pounds more in the subsurface soil on the limed plots than on those not limed. This 2105 pounds of excess calcium in the soil of the limed plots is, of course, not now hydrate or other active form, but has probably been combined as silicates in the neutralization of acidity. Altho the limed plots have become slightly acid, and are now in need of more lime, a fair growth of sweet clover was turned down for corn this spring, while no clover was growing upon the unlimed plots.

On the West Salem Experiment Field, limestone was applied in 1912 on a number of plots at the rate of four tons per acre. On some of these plots no further addition has been made since the initial application, while on others, starting in 1916, limestone has been applied at the rate of 2 tons per acre every four years.

The land with only the initial application is, for the most part, still sweet after 10 years, altho the sweet clover is beginning to show the need for more limestone. The average yields for the last five years are as follows:

	Wheat Bu.	Corn Bu.	Oats Bu.	Soybeans Bu.	Clover Lbs.
No treatment - - - - -	1.8	12.5	11.7	7.4	520
Initial application only of limestone - - - - -	7.4	25.7	28.4	8.7	1600
Initial application followed by 2 tons every 4 years	9.4	28.2	30.5	8.8	1880

The wheat yields were lowered by an almost complete failure in 1920, due to Hessian Fly.

All this does not mean that we should dump a lot of limestone on the land, and then wait 20 years before applying more. The efficient way to use limestone is to make the initial application sufficient to correct the acidity of the surface soil, and then apply just enough each rotation to maintain the soil in a neutral state." - John Lamb, Jr., Assoc. Exp. Fields, U. of I.

Soy Bean Day at University - Three hundred soybean growers, actual and potential, gathered at the University, September 8, to take note of the latest developments and progress in growing this crop. The morning was devoted to a field trip over the Experimental Fields where beans in rotation and under variety tests were observed. In the afternoon W. J. Morse of the U.S.D.A. headed the list of speakers who discussed the crop from varieties and standardizations of names to the latest developments for using the crop. It was a great day. The demonstrations and discussions were clear and concise. Those who came were there to learn and profit from what they saw.

Dates have been set for the Fall District Conferences as follows:

Northwestern Section - Oct. 17 & 18	Southern Section - Oct. 30 & 31
Northern Section - Oct. 19 and 20	Western Section - Nov. 1 & 2
Central Section - Oct. 23 & 24	

Definite programs will be mailed to each adviser.

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State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

September 20, 1922

No. 38

Put Away Some Apples For Winter

"In seasons when fruit is abundant, as it is this year, many people forget that the supply is likely to disappear before midwinter. Now is the time for farmers to select a supply of sound apples from the late keeping varieties in the home orchard and pack them away for the winter supply of fruit, sauce and pies. To keep apples successfully, choose varieties suitable for the season - Grimes Golden, Jonothan, Stayman and Delicious for November and December; Rome Beauty, York Imperial, Akin, Yellow Newtown, and Baldwin for January; and Ben Davis, Willow Twig and Winesap for February and March. Save only hard, well developed, sound fruit, discarding all wormy, scabby, or bruised specimens. Pack apples in barrels or boxes and close the packages. In open containers the fruit shrivels and is exposed to rot-producing spores and bacteria which cause early decay. Apples keep best in cool basements where the air inclines to be moist. Cemented basements with furnaces are unsatisfactory. Buried in frost-proof pits out-of-doors, apples often keep very well. Wrapping the individual specimens in newspaper prolongs their season several days, keeps the individual specimens fresh and crisp, and prevents the spread of rot thru the packages." - B. S. Pickett, Professor of Pomology, University of Illinois.

Creosote Prolongs Life of Fence Posts - "Inquiries from farmers in various parts of the state show that white oak is a favorite wood for fence posts, lasting ordinarily from 8 to 10 years, but not so durable as black locust, catalpa mulberry, or osage orange which have a durability of 15 years and over, untreated. However, it has been found out by the foresters that the growth of white oak is exceedingly slow. For this reason it may be advisable for farmers to raise cottonwood, willow, and rapidly growing hardwoods on their overflow bottom-lands and give such species a preservative treatment with creosote by the open tank method. Posts to be treated should first be peeled and carefully air-seasoned, then dipped in hot creosote for several hours or over night, after which they may be piled up ready for use. If the work is done carefully they should last as long or longer than white oak posts. The Forestry Department of the Iowa State College has published a good bulletin on the preservative treatment of fence posts and methods are given which can be followed by any farmer. Hedge, catalpa and locust are of course old stand-bys for posts where such species can be raised which do not need treatment with preservatives." - R. B. Miller, State Forester.

Who Said 'Forward Farm Bureau'? - "Hookdale, Bond County, was a busy place this morning when the farm adviser arrived. There were five cars of limestone and a 56 ton car of rock phosphate in town. More than a thousand dollar investment in soil fertility! Every car was well manned with happy shovelers and the Farm Adviser had great difficulty in escaping work." - Chas. Tarble, Bond Co.

Farmers Help Determine Place of Forestry in Illinois - "Professor H. H. Chapman, of the Yale Forest School, left Urbana on September 12 to return to his work at New Haven where he is Professor of Forest Management. Professor Chapman has been for two months connected with the Natural History Survey, Urbana, Illinois, on an economic survey of selected portions of the state, the object of this being to determine the place of forestry in Illinois and to outline a forestry policy for the state. His work was initiated in the state by a conference with several heads of departments, those present being: Professor Burlison, Rauchenstein, Blair, Lehmann, and Rusk. In the field conferences were held with Professor R. S. Smith, of the Department of Soil Physics, and several of the county advisers. One feature of the survey will be a determination of the value of the woodlands to the farmers, carried out by means of questionnaires which will be sent to selected farmers named by the county agents. He is trying to determine the value of the forest as a crop on land and the balance which should be maintained between forestry, horticulture, farming, grazing, etc. This involves several factors, such as stumpage value of timber, the amount which can be produced on different classes of soil, and the economic importance of wood in the different industries. A preliminary report will be published some time during the winter but the completion of the survey will require a much longer time. Professor Chapman believes the farm woodlot has great value in Illinois and that there are great possibilities in the line of education of the farmers by actual demonstration in the improvement of the woodlot. This involves some research and the carrying of the results of this research and experiment to the farmer thru extension work, just as is done with other crops. Illinois, according to Professor Chapman, should be more concerned about forestry than some of the states which have a larger supply of timber because she imports such a large percent of her timber. The farmer is especially interested because more than 45% of the timber produced in the country is used on the farm." - R. B. Miller, State Forester.

Sweet Clover Soil Building - "Recently found one of our members plowing under sweet clover (which had not been cut for seed) with a tractor and three bottom plow. This clover was from five to eight feet high. The tractor was equipped with a bumper in front to keep the sweet clover out of the radiator, and a piece of railroad iron was hung from the plow frame in front of the cutters on an angle with them, to break down the stems in such a way that the sweet clover was being turned under satisfactorily. It was doing the work as nicely as any plow could do it." - L. W. Wise, Iroquois County.

How to Sell Small Crop of Buckwheat - "The manager of the Kenney Grain Company tells me that small lots of grain such as buckwheat can be sold satisfactorily by sacking them in second-hand burlap sacks and putting them on top of a bulk car of corn, oats or wheat going to Chicago. Usually such grain sells within one or two cents of the car-lot price and sometimes sells up to car-lot prices. He has followed this plan repeatedly. He learned about it a few years ago when he was a grain inspector in Chicago and handled cars of that sort, but most elevator men do not know about it." - E. T. Robbins, DeWitt County.

A Successful Project - "We found the meeting of the Producers' Live Stock Commission Association at the National Stock Yards interesting and enlightening on some of the phases of live stock marketing on which heretofore we had not been well posted. It is gratifying to know the success of this farm bureau project." - E. M. Phillips, Greene County.



"The Menominee Community Fair demonstrated to the people of the community that they had a good many things in that community that they did not know about themselves. The exhibit of the four bulls belonging to the cooperative bull association and which are located in that township was the outstanding feature. The dairy cattle judging demonstration given by Professor Nevens of the University of Illinois received the strictest attention and the swine judging demonstration was equally well received." - C. C. Burns, JoDavie County.

Swine Associations Formed as Results---"Our hog show at Fairfield aroused a great deal of enthusiasm among the farmers and business people in the county. We do not have a fair in this county, but with the help of the Chamber of Commerce and the business people of Fairfield and the different breed associations, we put on one of the best hog shows that they have ever had in Wayne County. In this hog show we had the spring Duroc Futurity show which carried \$200 in prizes and the Chester White pig show with \$50 in prizes, the Duroc and Poland China pig clubs with \$50 in prizes. Some of the business people remarked that they never thought a crowd of 3000 people could be gotten together at Fairfield. Some of the farmers remarked that they learned more about hogs that day than they had ever known before. This was due to the willingness of Mr. Gouseff to explain to the men the type of hogs that the public is demanding today. Most of the farmers got a better idea of the type of hog that we are wanting. As a result of this hog show the breeders are now getting together and organizing a breed association. The Duroc-Jersey breeders organized an association last Saturday night. The Poland China and Chester Whites are going to organize soon. The farmers are determined now to have a regular livestock show next year of all classes of livestock and if possible get a county fair started here in Wayne County." - C. T. Hufford, Wayne Co.

He Stayed with the Pool - "This year our members pooled approximately 3,000 pounds of wool. This is quite a decrease from last year and the year before, but was not entirely unexpected. The number of sheep in the county has decreased greatly during the last two years and this year the wool buyers were bidding very strongly for all wool. One of our men was offered 35 cents a pound for his wool at the farm, the buyer to come to the farm and sack it, furnishing all sacks. This man, however, elected to stay by the pool, because until the pool was organized he had never seen the buyers so anxious to bid the market price on wool." - F. M. Bane, Henderson County.

"Each one of our variety test plots is marked with a big sign board, the name of the farmer, and the Greene County Farm Bureau appear on this board as well as the announcement of the variety test of the beans. There are enough of these so that every farmer in the county is pretty sure to see the sign boards even if he does not go into the bean patch to examine them. We believe, however, that we have awakened an unusual interest in this crop by our method of advertising the same. We conducted a soybean demonstration tour on September 4 and 5. The tours conducted served to emphasize the importance of selecting varieties suitable to the purpose for which the beans may be intended. There were several very early varieties, some very late ones and also those of mid-season maturity. Then there were beans like Virginias which showed especial adaptability for silage purposes; Ohios, Haberlandt, Sable, and Mongols, which seem well adapted for the production of seed and Wilson, Ebony, etc. for hay. We consider our soybean project a very successful piece of farm bureau work." - E. M. Phillips, Greene County.

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While at work don't confuse steam with hot air.



The Extension Messenger

SEP 30 1922

A series of brief notes from the weekly reports of the Farm Advisers, College and Experiment Station Workers and the State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

September 27, 1922.

No. 39

Weaning Calves

"By using a little care in the weaning of calves, one of the most trying periods of their lives may be passed with little or no interruption of growth. Especially is this important when the calves are to be marketed as baby beef, a practice which seems to be coming more popular with cattle breeders in the corn belt. The time of weaning is usually when the cows go into winter quarters. At this time the calves are from 6 to 8 months old. Previous to this, the calves should become fully accustomed to the feeds which they are to be fed immediately after weaning. This is most easily accomplished by giving them free access to the ration; usually placed in a 'creep'. The earlier this is done the better but in a month or six weeks they should be eating the ration readily enough to be weaned without trouble. When the separation is made, the calves should be removed from the sight of the cows and kept entirely away from them. They should be placed in a comfortable lot or shed and given a liberal ration similar to that fed previous to weaning. A grain ration made up of 8 parts of shelled or cracked corn to 1 of linseed meal, or 8 parts of corn to 2 of oats and 1 of bran gives good results when fed with a good quality of legume hay. The cows at this time will also need some attention. They should be milked at least once a day until dry, and in the case of an especially heavy producer it may be necessary to reduce the ration for a time." - J. H. Knox, Animal Husbandry Dept., University of Illinois.

Well Ventilated Barns - Legg, T. B. - "One of the important phases of tuberculosis eradication is the thoro cleaning up of the barns. Several of these farms were visited this week and the clean-up work was done in an excellent manner. A good many farmers are putting in more windows for more light and also installing proper ventilation systems. The ventilation on the average farm is worse than none at all. In the testing of cattle for T. B. we are finding barns which are well ventilated produce a less number of reactors. Also, where farmers have bought cattle from the cattle dealers we are finding the greatest percentage of infection." - J. C. Kline, Boone Co.

County Veterinarian Secured for JoDaviess County - "We were successful in securing \$3000 from the County Board of Supervisors for a county veterinarian. The preliminary educational campaign has been concluded. Future work will be done in organization of the townships." - C. C. Burns, JoDaviess County.

Hog Sanitation Pays - "Harry Sprague of Waynesville had a great deal of trouble with worms in his Poland China pigs last year. This year he followed the new sanitary system of handling sows and pigs and has had no trouble from worms. The worst pig he has this year looked better than the best ones a year ago." - E. T. Robbins, DeWitt County.

When you freeze on to a good idea, don't keep it in cold storage.

Points to be Considered in Buying Limestone - "There are at least two factors to be considered when buying ground limestone for application to soils in need of this material. The cost per unit of neutralizing power is a very important consideration. If stone, having a purity of 95 percent calcium carbonate equivalent can be purchased for \$2.00 per ton, an 83 percent grade would be worth \$1.85, even if we neglect the extra cost for handling the lower grade material. Fineness is another point worthy of mention. The finer the material, the more rapid its effect on the soil. This fact should especially be kept in mind when making the first application to soils which are rather acid. Many failures of clover are reported the first year after liming where rather coarse stone has been applied. Dolomitic limestone in particular acts rather slowly. On the other hand, the finer material is probably lost more readily by leaching. Since the dolomitic form is not so readily attacked, it would be expected to be lost to a lesser extent than the high calcium stone. Other things being equal, the finer grades of limestone are preferable especially for the first application." - O.H. Sears, Division of Soils, University of Illinois.

Local Crushers Commendable - "2000 tons of home pulverized limestone is our record to date for our portable cooperative limestone crusher. Not figuring depreciation this work has been done at a cost of \$1.29 per ton delivered to the farm." - G. F. Baumeister, Stephenson Co.

In Our Tests for Soil Acidity - "We find it interesting to show the farmers that the soil in the runs in the field contains plenty of lime which accounts for the fact that alfalfa and clover thrives in this kind of an area in a field while it does not on the higher land which invariably is acid. Most farmers attribute the good growth in the runs to the moisture factor. This may account for some of the increased growth but not for all." - W. B. Richards, Kane Co.

Soy Beans Stand Dry Weather - "A large percent of the farmers who laughed at the idea of planting soy beans in preference to cow peas this year are convinced that the soy beans on their best ground stood the dry weather a lot better than the peas did. We have field experiments to show that the peas do better on soil that is real acid, but where the soil has been limed the soybeans have done better. I think there will be a large increase in acreage of soy beans next year." - C. T. Hufford, Wayne County.

"Fourth Crop Alfalfa - Quite a number of farmers have been making their fourth cutting of alfalfa. This is the first year in which this has been done so far as we have any information. It is the usual custom here to cut alfalfa only three times." - Otis Kercher, Pike Co.

Local Crushers Increase Limestone Use - "Over 2000 tons of limestone pulverized and delivered to local farms at a cost of about \$1.60 per ton is the record of our cooperative limestone crushing company to date. The outfit will be busy as long as weather is fit. This is more limestone than has ever been used in Stephenson County in any one year before." - Baumeister, Stephenson Co.

District Conferences - While the programs have not yet been definitely outlined, the places of meeting have been set as follows: Galesburg, Rockford, Urbana, Centralia, and Springfield. Dates were given in Messenger #37.

Movies Not Successful in Tents - "Recently, we have had a number of reports from farm advisers who have attempted to show movie films under tents at county fairs or farm bureau picnics. Almost without exception the sunlight has been so bright even under a tent, that a satisfactory showing was not obtained. However in a few cases a block-walled shadow-box was constructed in the darkest corner of the tent and the results were quite successful. In general it seems that this project should not be attempted without a careful study of the necessary requirements, for a poor showing of a good film may be worse than none at all." - C. A. Atwood, Ass't. State Leader in Illinois.

Have You Shown the Decennial Film? - The Homestead Films Incorporated produced a film of the Decennial Celebration held at DeKalb, June 30. This was done both to commemorate the event and to bring to all the farm bureau people of Illinois, a vision of the accomplishment of the first ten years of farm bureau work as portrayed in the farm bureau pageant. Some counties have already seen these films and others are anxious to secure them. The Homestead Company are charging a rental fee large enough to guarantee the cost of producing the film. Naturally the circulation is limited.

Teaching Thru Films - "We concluded the showing of the film "Exit Ascaris" during the week, showing five evenings. The attendance was not quite as good this week as last. During the 11 times which we showed we had approximately 1120 people present. We are very well pleased with the workings of the machine and also of this method in getting information to the people." - G. E. Gentle, Schuyler Co.

A Lesson Taught in Novel Way - "The farm bureau annual meeting was held in the court room and the jury box was occupied by three exhibition chicken coops, marked as follows: No. 1 - 'This hen is a loafer. She never worked and never will.' No. 2 - 'This hen worked for six months and quit. She is resting now.' No. 3 - 'This hen began work last October and has been hard at it ever since.' Two other signs were shown above the coops. One of them read 'Jury'. The other, 'Which hen represents you in the Farm Bureau Work?' - W. R. Eastman, Pulaski Co.

In One Community - "A culling demonstration was given with a small but appreciative audience. This section of the county hardly has enough farmers left to gather the crops and cut the weeds as most of the younger men have found jobs on the railroad at much better wages than any farm income." - W. R. Eastman, Pulaski Co.

Spraying Determines Grade - "Jonathan apples are now being marketed and the Fruit Exchange Unit at Ozark have their new packing plant in use. They are certainly doing their part to uphold the standard of their pack. The members of the Exchange are given a great opportunity of studying the effects of careful and thoro spraying on the quality of fruit. When apples from one orchard grade at 83% as No. 1 and those from another orchard grade only 14% as No. 1, when uniformly and impartially graded at a cooperative packing plant, growers are certain to look for a reason. This is but one more argument for a central cooperative packing plant." - J. G. McCall, Johnson Co.

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"Three days make up our life--Yesterday, Tomorrow, and Today. Yesterday is dead forever. Tomorrow's sun never rises--it is always Today. Do the work today. Start today and do the things you ought to do. You know what these things are. Nobody else on earth can tell you. Begin today."



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OCT 9 1922

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

October 4, 1922.

No. 40

Third Annual Farm Management Tour - "The third annual farm management tour was conducted Thursday, September 7. This was the most satisfactory farm demonstration tour with which I have ever assisted. The attendance at the several meetings was as follows: L. C. Schertz-75; Amos Neuhauser-125; Geo. Shuman-200; Lester Pfister-225; F. M. Hock-225; Minonk Plots-200; E. D. McChesney-150, and S. E. Unzicker-90. Several things combined to make this a very satisfactory day:

First. From the farm account records on the farms where the stops were made we had definite data to show that the men were financially successful as well as having done something worthy of special notice.

Second. Mr. Johnston had prepared charts showing the financial records of particular enterprises for several of the farms. These were tacked to the sides of the barns and aided greatly in assisting our people to get definite information.

Third. The owners of the farms visited very clearly stated in their own words the methods used and the results secured. Questions on the part of the people helped these men to present their work in a satisfactory way.

Fourth. Several specialists along particular lines enabled our people to get the best and the latest information available on various subjects.

Fifth. Our people present on this tour were out for information and not for a holiday. This was very apparent in the close following of the requests of the manager of the tour and the attentive interest to the farmers and specialists who explained the work at the different farms." - M. L. Mosher, Woodford Co.

Protecting Winter Wheat with Straw - "Much has been said and written during recent years concerning the beneficial effect of protecting winter wheat with straw. While it is true that under certain conditions a moderate application of straw may prove of benefit, it would seem that too great stress should not be laid on this method of overcoming winter killing. The Illinois Agricultural Experiment Station conducted a systematic investigation of this subject during the seasons 1918-19, 1919-20, and 1921-22. The winters of 1918-19 and 1921-22 were unusually mild and wheat generally came thru in excellent condition. The winter of 1919-20 was of ordinary severity. In conducting this experiment different amounts of straw were used ranging from one-half ton per acre to three tons per acre and applications were made at intervals during the autumn and winter. Alternating with the protected plots were check plots receiving no protection. The data which have been obtained thus far would appear to indicate that there is no consistent relation between the date of application and the effect upon the yield, beneficial or otherwise. The same may be said concerning the amount of the application. As the result of 28 trials conducted during three years in which different amounts of straw were applied on different dates, there was an average of 1.4 bushels per acre more wheat produced on the unprotected plots than on the protected plots." - R. W. Stark, Crop Production, U. of I.

Growing Bulbs in Water - "This is the time to plant the Chinese Sacred Lily and Paperwhite Narcissus bulbs. They may be planted to secure a succession of flowers. They may be planted in soil, moss, sawdust, or water alone. The cleanest and simplest method of growing or 'forcing' them is by placing them in shallow bowls, arranging pebbles around them to hold them in place, and then adding water until from one-third to one-half of the bulb is covered. By using the larger size bulbs, more flower stalks and better flowers can be obtained. The bowls should be placed in a cool, airy cellar, garret, or storeroom in a dim light. The temperature should be from 40 to 50 degrees. These bulbs are not hardy, so any chance of freezing should be avoided. The water level should be maintained and they should be kept in the storeroom from four to six weeks, or until there is a thick mass of roots in the water and the shoot has started to grow. Then bring them into the light and living room temperature and in a short time they will bloom. The object of keeping the bulbs cool and in the dark is to force root growth and retard top growth. The more roots that are formed, the sturdier the plant. Too much warmth at first will produce long, limp leaves and may cause the flowers to 'blast' or fail to open. With a little care as to the water level, light and temperature, fragrant, graceful flowers may be grown that will more than repay for the time and trouble." - Harry Mohlman, Div. of Floriculture, U. of I.

Inoculation Results - "While harvesting soybeans from two projects this last week we noted some interesting data upon the efficiency of inoculation upon different varieties. The seed was all inoculated in a similar manner by the muddy water method. Out of eight varieties inoculated in this manner only three varieties showed inoculation to any extent. Those showing inoculation were Mongol, Ohio 9035 and Easy Cook. Those showing practically no inoculation were Lexington, Illinois 1319, Peking, Wilson 5 and Virginia." - C. W. Simpson, Gallatin Co.

Midwest Soybean Popular - "Recently, we held demonstration meetings on the soybean variety plots located on two farms in different parts of the county. Six varieties of beans were raised in rows in the demonstration plots. The varieties included the Midwest, Ito San, Manchu Ebony, Ohio 9035, and the Wisconsin Early Black. The farmers who attended the demonstrations favored the Midwest and Ohio 9035 for planting with silage corn, the Ito San for hogging off purposes and the Manchu for grain. Those who attended the demonstrations were well pleased with the information they secured from seeing and discussing these variety trials." - W. B. Richards, Kane Co.

Down Stalks on Diseased Corn Rows - One of the corn disease plots was visited this week and a much greater number of down stalks was observed on the rows where diseased seed was used than on that where nearly disease-free seed was used. By actual count the ratio was found to be 40 on the diseased seed rows to 15 on the nearly disease-free rows." - J. G. McCall, Johnson Co.

Apple Harvesting is at its height at the present time and this next week will see Jonathons and Grimes Goldens pretty well disposed of. Pike County has a large crop of apples of good quality this year. Most of the large orchard men are planning on putting their crop in storage due to the slow apple market at this time. Common stuff and the apples raised by small growers are moving very slowly and at a very low price. Many of our small orchards are selling Jonathons and Grimes Goldens and similar varieties on the trees in the orchard at from 25 to 30 cents per bushel, the buyer picking the apples and taking them as they come." Frank N. Barrett, Pike Co.

Show Club Calves and Pigs - "Last week was spent at the Henry County Fair with the Boys and Girls Calf and Pig Club exhibits and a Farm Bureau exhibit. Forty-four baby beeves and 55 gilts were exhibited by the boys and girls. The calves were purchased in Kansas City last March and started on record April 1. Every one was shown. They made an average gain of 2.7 pounds per day. They were sold at auction on Friday of the Fair. The average weight was 977 pounds and the average price \$11.35 per cwt. 55 gilts were shown, Duroc Jerseys, Poland China, Hampshires, and Chester Whites. The Farm Bureau had a small exhibit space in the tent. Samples of common weeds; types of stalks and ears for seed corn selection; corn grown on limed and sweet clovered land compared with corn from a check strip in the same field; samples of Hubam and common biennial sweet clover; alfalfa variety yields; and laying and non-laying hens made up the exhibit." - J. W. Whisenand, Henry Co.

"The Cooperative Shipping Association is gaining ground. The farmers are beginning to see the advantage of marketing their stock cooperatively. When the association was first organized, the local buyers misrepresented it to the farmers and had many of them afraid to ship their stock thru the association, but now that fear is fast fading away. The association is shipping about a car of stock per week." - O. M. McGhee, Massac Co.

Pasturing Down Corn with Cattle - "L. V. Craft of Waynesville has his cattle turned into the corn field. His method is to keep water away from the cattle until they are quite thirsty, say 24 hours, then fill them up on water and turn them right from pasture into the corn field. He follows this plan each year and has had no bad results." - E. T. Robbins, DeWitt Co.

Our Annual Farm Bureau Picnic was held last Saturday, September 16, with a good attendance in spite of the fact that it rained slightly in the morning and looked cloudy all day. During the day about ten balloons were let loose. Each one had a letter attached. We have had one reply so far which was from a man in Fulton County. Mr. C. E. Gunnels of the A. F. B. F. was our speaker, and gave a very fine talk. Our membership drive started on September 27 and township meetings have been held in every township within the last three weeks. Movies have been shown and every meeting has been a successful one." - P. S. Richey, Mercer Co.

Who Called for Service - "The feature of the farm bureau exhibit at the Fair was a map of the county with thumb tacks stuck into the farm of each man whom I had visited by request since coming here April 1. Bright colored string ran from the thumb tacks to a narrow strip of cardboard along the side of map on which the man's name was printed. Each precinct was grouped around the map and gave a very comprehensive view of the use the different sections were making of the farm adviser. Much interest was evidenced by the people of the county in seeing just who had actually asked for a farm visit from their particular neighborhood." - F. H. Kelley, Edwards Co.

Resignations - J. J. Doerschuk has resigned as adviser in Union County to take a similar position in Lake County, following Mr. C. E. Wheelock who has resigned on account of his health. Mr. Doerschuk will make the change about Nov. 1.

C. H. Belting has resigned his position as adviser in Shelby County effective Nov. 30.



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The Extension Messenger

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OCT 12 1922

A series of brief notes from the weekly reports of the Farm Advisers, College and Experiment Station Workers and the State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

October 11, 1922.

No. 41

Some Facts Regarding Tenancy

"Over 100,000 or 42.7% of the farmers of the state are tenants. According to the 1920 census report, 29 counties in the north central part of Illinois had upwards of 50% of farmers who

were tenants. Since the greatest amount of tenancy is always found on the most fertile land, it may be stated that more than half of the agricultural production of the state is in hands of tenants.

Over 40% of the tenants in some counties are closely related to the landlords. In most of these cases tenancy constitutes a logical step to land ownership. The young tenant cannot hope to acquire land ownership until he has proved to be a desirable farm operator and has acquired experience. However, danger does lie in the fact that the period of tenancy may be too long and under circumstances that do not make for economical production and rural progress.

Frequently rented farms are not organized in a way that permits the most economic production. This reduces the tenant's possible income and lengthens his period as a tenant. Results from 70 Woodford County farms show that for every 200 acres in crops, the 'tenant farms' had 97.3 acres of corn, 77.5 acres of oats and 25.2 acres in other crops, while the 'owner farms' have 90.6 acres in corn, 60.4 acres in oats and 49 acres in other crops. This means a much better rotation on owner farms. Also the yields were about 8% better. There were only slight differences in the acreages of crops found on farms where the tenant was related to the landlord and on farms where no relationship existed. The acreage of crops worked per man was 87.7 and per horse was 22.2 on tenant farms, compared to 80.2 and 20.7 on owner farms. This may be partly due to the smaller amount of livestock found on tenant farms.

A greater difference between tenant and owner farms is shown in the relative amount of livestock found on the farms.

	<u>Tenant not related</u> <u>to landlords</u>	<u>Tenants related</u> <u>to landlords</u>	<u>Owner operated</u> <u>farms.</u>
Average No. Horses	6.8	6.3	7.0
" " Cattle	11.3	16.3	17.4
" " Hogs	19.6	38.3	50.7
" " Sheep	1.4	2.5	2.9
Size of Farms	177.1	186.	192.3

The larger number of cattle and hogs found in the last two groups is of real significance from the standpoint of good farm organization. If the leases and the working relations between the landlord and tenant, provided for as efficient organization and operation of tenant farms as of owner farms, the tenancy problem would be less serious. These facts do not tell the whole story because the data does not represent average conditions. Tenants who keep farm records are usually farming under better conditions than the average tenant, also the percentage of relationship between landlords and tenants in Woodford County is unusually high." - H. C. M. Case, Dept. of Farm Orgn. and Mgt., U. of I.

Threshing Soy Beans - "Threshing soy beans has been the cause of considerable comment and in some instances of anxiety. Farmers and threshermen alike have tried to use the machinery at hand for threshing soys. This idea I think is correct because most farmers have too much machinery around already. Many men ask if soy beans can not be threshed better with a bean huller. Probably so, but will it not be easier and more economical to introduce this new crop into a system of farming, if we can use the machinery at hand for seeding, cultivating, harvesting, and threshing? Every community has one or more machines for threshing wheat and oats which can be used for threshing beans with slight changes of pulleys and speed.

Experience has taught that beans split badly when put thru an ordinary separator running at normal speed. Some threshermen found that after removing all the concaves and most of the cylinder teeth they still split 20 to 50% of the beans. Others found that when the cylinder was running slowly, they could use three rows of concave teeth and practically split none of the beans or less than 1%. This leads one to believe that it is the speed and not the teeth that splits the beans. In equipping a separator for threshing beans one should use a pulley which would drive the cylinder about 500 R.P.M. and change other pulleys to keep the fan, blower, feeder, and racks running at normal speed.

There are mornings when the beans are tough or damp with dew that more speed is needed to thresh the beans and in the middle of the day when the beans are thoroly dry, less speed is required. This variation, however, can usually be taken care of by changing the speed of the engine. Successful soy bean threshing is just as simple as threshing wheat or oats." - W. E. Riegel, Tolono, Illinois.

Swing Lives-Inestimable Results. "Three herds consisting of 78, 55, and 22 animals were T. B. tested the past week. Seventy-seven reactors were found in herd No. 1; seven in herd No. 2, and 13 in No. 3. The 78 head of Holsteins were all pure bred. The mature animals in this herd were all purchased with the exception of about six, from two Illinois herds. Animals which have been tested in these two herds in the past have reacted in nearly every case. The testing of this herd of cattle has stopped the spread of tuberculosis to a greater extent than could be done in testing a dozen other herds. There were 16 bulls from six months to a year old included in the 78 tested. These 16 bulls would have gone into 16 herds and thus spread tuberculosis in a wholesale manner. Cases of this kind have been the cause of the vast amount of tuberculosis in northern Illinois dairy herds. The general public in McHenry County is looking upon T.B. testing from an entirely different view point in 1922 than in 1916. This is shown very forcibly in Woodstock. One farmer started a milk route selling milk from tuberculin tested cows only. Less than a year ago he sold 90 quarts per day. He now sells over 550 quarts per day." - A. J. Gafke, McHenry Co.

The Soil Team Again to the Front - "It seems significant that there is more inquiry concerning limestone and rock phosphate this year than there was last and more is being ordered. If it were possible to get prompt delivery of rock phosphate, I think a great many farmers would try a little of it." - Earl Erice, Kendall Co.

Potash on peat soils is returning large profits. It means 12 to 14 tons of corn silage per acre where potash is used and practically a total failure where no potash is used." - A. J. Gafke, McHenry Co.

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Don't wait for your ship to come in; row out to meet it



The First Book of Its Kind - Farm Advisers and other leaders of agricultural thought and action are continually being called upon for information concerning agricultural credit. It is particularly appropriate to have available at this time a new book entitled, "Bank Credit and Agriculture" by Professor Ivan Wright, Assistant Professor of Economics at the University of Illinois. Professor Wright's book treats of the farmer's needs in the way of financial aid or bank credit. It also explains in simple terms the methods now available under the Federal Reserve System, and the Federal Farm Loan Associations for obtaining this assistance. In addition it offers a number of proposals which if established should go a long way toward further solving the problems of agricultural financing.

The farmer has passed thru the inflation and high price period and has definitely entered the deflation and low price season following. He needs aid, financial assistance particularly, for a short time in order to carry him over the depression. Each year, also, brings a period of short time need when the farmer requires financial aid to float livestock feeding loans and to carry him thru to harvest or at least to tide him over until the sale of produce is effected.

These needs make professor Wright's new book especially acceptable at this time, and since it is the first and only work of its kind, it does an admirably good piece of pioneering. Copies of the new text may be obtained from The McGraw, Hill Book Co., 370-7th Ave., New York City.

Will Stage "Baby International" - Homescoming visitors and others at Urbana, Illinois, on Friday, October 20, will experience the rare opportunity of attending the little International Live Stock Show at the University of Illinois. Thru the efforts of students in the College of Agriculture a real "Baby International" will be staged in the live stock pavilion between 4 and 6 P.M. on October 20. These students will properly prepare for showing, horses, hogs, sheep, beef cattle, dairy cattle, and poultry. The best animals owned by the University in the various breeds will be on exhibit in real show style. The project will be under the direct management of the "Hoof and Horn Club" of which J. W. Tilsy is "Herdsman". You are invited to visit the "Baby International". - C. A. Atwood.

Producer's Commission Association Leads the List - Marketing of livestock thru cooperative producer's associations seems to meet with genuine favor among farm bureau members. At the four big markets where the "producer's" are working they seem to be in the lead practically all the time even though they have been operating but a comparatively short time. Offices were opened at National Stock Yards, Ill., Jan 2, 1922; Indianapolis, Ind., May 15, 1922; Chicago, Ill., June 19, 1922, and at Peoria, Ill., June 25, 1922. The number of cars of livestock handled has increased regularly each month. With 250 cars handled in January, the number has increased to 1784 in August. Now a news sheet known as the National Producer's News has been originated to keep shippers fully informed.

The Northern District Conference has necessarily been changed from Rockford to Rochelle because of the Federation of Labor and State Dental Association meetings at Rockford, on identical dates. The advisers' conference headquarters will be at Collier Inn, Rochelle, Thursday and Friday, October 19 and 20.

Be Gone Mr. Chinch Bug - "The County Board of Supervisors appropriated \$50 for cooperation with the farm bureau in an advertising campaign to clean up our chinch bugs. The film (chinch bugs) has brought out considerable interest and has also been shown in two high schools and prizes have been offered in each one for the best theme written on the subject of chinch bug control. We believe this will aid us in the chinch bug campaign." - George T. Swaim, Ford Co.

The Extension Messenger

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OCT 20

A series of brief notes from the weekly reports of the Farm
Advisers, College and Experiment Station Workers and the
State Leader's Office

UNIVERSITY OF ILLINOIS - URBANA, ILLINOIS

Vol. V

October 18, 1922.

No. 42

Spray Peach Trees in Fall

"Peach leaf curl was unusually abundant the past season due in part to abnormal weather conditions. In some cases the presence of the leaf curl organism was accounted for either by the absence of a dormant spray, or because the dormant spray was applied after peach buds began to swell. The spores of the fungus live over the winter on the twigs and are easily killed by winter strength lime sulfur. It is essential, however, to make such an application before there is any activity on the part of the tree inasmuch as the development of the disease starts as soon as the buds begin to swell. From this has resulted the recommendation to spray peach trees in late fall since unfavorable weather conditions often prevent early spring sprays until too late. Use commercial concentrated lime sulfur diluted 1 to 8, or dry lime sulfur 15 pounds in 50 gallons of water. Oil sprays are not effective in the control of leaf curl." - W. S. Brock, Dept. of Horticulture, U. of I.

Cheaper Carbon Bisulfid - "Many reports are being received of weevil in grain bins. At the present time no better method of combating these pests is known than fumigation with carbon bisulfid. It is not necessary to use refined carbon bisulfid for this work. A fumigation grade can be obtained from the larger drug houses for from eight to twenty cents per pound, according to the quantity purchased. This is just as effective for grain fumigation as the more expensive highly refined product." - W. P. Flint, State Entomologist, Natural History Survey.

Daylight Films a Success - "A recent issue of the Extension Messenger reported that a number of farm bureaus were not making a success of motion pictures in their tents. We were successful with this feature at the County Fair as we used a good shadow box and were thus able to regulate the light so pictures were quite clear cut. We had more visitors at the Farm Bureau tent this year than any of the 5 years since we have been making a show at the County Fair. The Farm Bureau had its quarters in a large tent at the Fair grounds in which several interesting features were staged. Among these were: motion pictures; a radio outfit; corn exhibit; a weed naming contest; an exhibit from the Illinois Experiment Station; a limestone exhibit; soy bean varieties and other minor things. The radio station attracted a great many visitors, as weather and market reports, music, and the report of the World Series baseball games were received." - E. M. Phillips, Greene Co.

Professor Mosier Seriously Ill - The many friends of J. G. Mosier, formerly Professor of Soil Physics and known over the state for his work in connection with the Soil Survey, will regret to hear of his continued illness. Professor Mosier suffered a paralytic stroke four weeks ago and his condition has not improved since that time.

Where to Use Concrete on the Farm - "The use of concrete and hollow tile is becoming more common on many farms. This is due to the rising cost of lumber as well as the farmer's desire to put up more permanent and sanitary buildings. A judicious use of concrete affords the farmer an opportunity of converting raw products as cement, sand, and gravel into a finished product. He thus capitalizes his spare time, improves his farm, and lays the foundation for greater and surer profits. There is, however, a well defined limit to the percentage of capital that can be put into permanent improvements, differing on each farm, and generally running highest on a good mixed and specialized farm. Unless judgment is used in the degree to which concrete or hollow tile replaces wood, the average farmer might easily overstep that limit and let himself in for expensive buildings, thus greatly curtailing his profits. Under present conditions, concrete finds its most economical and serviceable use where it is called upon to carry great weight and at the same time is exposed to the damp and rotting action of the ground or water. It is the material 'par excellence' for the foundations and piers of all barns, granaries, houses, sheds, silos, and heavy machinery. Timber used in these locations seldom lasts ten years and is a source of continual expense.

The next best use of concrete is where sanitation and the saving of daily routine labor are important items. Such uses will be in the floors of dairy barns, hog houses, basements, and milk rooms. Every farm home should have a good concrete basement. Every commercial milk producer should have a concrete floor in the dairy barn. Every hog breeder or feeder will have to use concrete for hog houses, and feeding floors if he would escape the ravages of cholera, and other hog diseases. A third important use of concrete is in small structures, where total cost is low but where sanitation or permanence are advisable. Such structures will be the cistern, septic tank, well top and curbing, watering troughs, hog wallows, and fence posts. With little practice a farmer can produce a good concrete fence post at the cost of a cedar post which will last about a life time.

For the ordinary farmer's wants, the wooden stave silo on a concrete foundation and properly handled will give excellent service for a life time, and cost much less than an all concrete silo. In like manner the concrete corn crib, concrete root cellar, concrete poultry houses, etc. belong on the large or on the specialized farm where the volume of produce that goes thru the building is sufficient to keep the charge per unit low. Hollow tile finds its best application in the side walls up to the height of 4 - 6 feet in a dairy barn or hog house. These should rest upon a concrete foundation, and in turn carry the super structure of the walls, loft, floor, and roof made of timber. Concrete is seldom the proper material to use for high side-walls, roofs, loft floors, or floors in a horse barn, poultry house or machine shed. Super-structures of concrete require expensive form-work, reinforcement, skilled labor, and much work to build; they are thus very expensive and have no desirable properties that could not be obtained at a lower cost with other materials." - C. A. Scholl, Farm Mechanics, U. of I.

Free Trips to International - "Eight free trips will be awarded to the outstanding club members in the pig, baby beef, sheep, and corn projects. Each county leader will submit the record and story of the best member in these projects to the state office to be judged by a committee. Trip winners of previous years will not be eligible to compete. In all, over 100 club members from Illinois are expected to attend the International." - H. F. Wolter, Asst. State Leader, Club Work, U. of I.

Smart Weed Borer Gives Scare - "The Adviser's attention was called to injury of a certain area of a corn field in the northeastern part of the county, the owner fearing that the injury was the work of the European corn-borer. The Adviser spent considerable time looking over the area, carefully collected some specimen to the State Entomologist. There was no evidence, either from the character of the injury nor from the appearance of the insects to show that the European corn-borer was present. Inasmuch as the smart weeds in the corn field plainly showed evidence of the work of a borer it is likely that the injury done to the corn was that of the smart weed borer." - W. R. Eastman, Pulaski Co.

Protect the Quail - "We are appealing to the farmers to protect the quail in order that we may more effectively control the chinch bugs that are apparently present over the entire county. We have observed chinch bugs flying in all parts of the county and in a number of cases corn is infested with a goodly number of these insects." - F. E. Longmire, Grundy Co.

Miniature Poultry House Used to Demonstrate - "We have just completed a very successful poultry campaign. Meetings were held in each community where housing, feeding and culling were discussed and demonstrated. A miniature poultry house used in connection with the discussion on housing was of value and proves that it is easier to show than to tell. More poultry houses will be built and remodeled this year than in all the past years the farm bureau has held poultry meetings. Culling still proves its value in the average farm flock." - W. Lloyd Keepers, Kane Co.

Flocks of chickens culled last fall have given a very much higher percentage production as well as a much smaller percentage of non-producers as shown when gone over this fall. Culling has been popularized to a very gratifying extent and almost every flock owner attempts to cull in some way a thing which is recent." Charles Tarble, Bond Co.

The "Movie" Meetings scheduled almost every evening for one month are proving very successful, the attendance averaging 175 people. The program consists entirely of motion pictures, educational and comedy. The lessons taught by the films each evening are saving many hours of individual work for the advisers later, this applies particularly to the chinch bug film should a chinch bug campaign become necessary next spring. County wide interest is also being developed in limestone thru the use of the film, "Farm for Sale". - J. H. Lloyd, Hancock County.

Car Shortage Holds Back Soil Improvement - "We are being slowed up very materially on our use of limestone thru car shortage. We have ordered in all probably 120 cars with something like 20 or 30 yet undelivered and many more would order if there were a better chance of getting it delivered." - Charles Tarble, Bond County.

Membership Motto - "I will inform myself concerning the work of my farm bureau in the past and plans for the future. I will use the farm bureau, attend meetings, and offer constructive criticism and suggestions to the officers. I will be open to new ideas and suggestions and charitable toward the ideas of others. I reserve the right to do some independent thinking for myself." - Prepared by J. D. Bilsborrow, Asst. State Leader, University of Illinois.

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Eagerness to serve - that way lies all success.

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OCT 25 1922

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

October 25, 1922.

No. 43

A Well Designed Septic Tank is Fool Proof

"Eight thousand people died in the United States in 1919 from typhoid fever. That meant at least 80,000 cases of typhoid. Of this number of deaths, 5,300 were country people.

Filth diseases (typhoid, dysentery, hookworm, cholera, and diarrhea) are caused by germs that live upon filth which in most cases is the waste or refuse products of the human body and other decaying animal and vegetable matter about the home. That these filth diseases cause more deaths in the country than in the city is explained by the fact that cities take more care in disposing of sewage while in the country it is usually the case that little or no attention is given to the disposal of sewage. Country people have and want the home conveniences that the city dwellers have. In this day and age they can have such conveniences as indoor toilets and still safely dispose of the wastes at little cost.

A septic tank permits of the proper disposal of sewage. Usually it costs little to make and much less if anything to maintain. Sewage entering a properly designed septic tank remains there until eaten up by anaerobic bacteria or bacteria that work without air. A heavy scum on the surface of the liquid in a septic tank denotes that solid matter has been changed or is being changed into gases and liquids. The liquid (effluent) leaving a septic tank should look very clear. However, it is not purified for it may contain disease germs and solid matter held in suspension. This liquid should be spread out in the surface soil or on a stream so that the bacteria that live in the air can purify it.

A small part of the organic matter in the sewage is not changed to gases or liquids and this with mineral matter sinks to the bottom of the tank and forms a sludge. Sewage should be carried to a septic tank thru non-porous tile with cemented joints. Waste from a sink should go thru a grease trap for grease does not decompose in a septic tank. Drain tile with open joints are used to make a filter bed so that the effluent can soak into the soil and be purified.

Various types of septic tanks have been used successfully, but because the single chamber septic tank is so easy to construct it has met with special favor. Every farm home should have running water. With running water there should be indoor toilets and bath. Such a system necessitates the disposal of much sewage and a septic tank disposal system which costs little, will safely dispose of the sewage and when properly installed, destroy all filth disease germs." - Frank P. Hanson, Extension Specialist in Farm Mechanics, U. of I.

New Membership Enrolled Rapidly - "Some 300 farmers attended our school of instruction for local solicitors. Over 250 remained for the entire session and signed agreements. Every township was represented with nine to twenty-two men, who evidently went directly to work as they have signed approximately 1000 members during the first few days of the drive." - L. R. Marchant, Knox Co.



"A High Point at the National Dairy Show - If the question were asked, 'what one thing at the great National Dairy Show just held at Minneapolis and St. Paul, means the most to the practical every day dairyman', I am inclined to think my answer would be, - the exhibit of grade cows, and their records made in the cow testing associations.

One grade Holstein belonging to Mr. D. W. Huenink of Cedar Grove, Wisconsin, produced in one year 29,932 pounds of milk and 817 pounds of butter fat. Four fine grade Holsteins from cow testing associations in Minnesota were exhibited, and they had the following records in butter fat for one year: 758 $\frac{1}{2}$, 551, 551 and 513 pounds respectively. There were 25 grade Holsteins exhibited with cow testing association records that averaged 506.7 pounds of fat in one year. There were seven grade Guernseys with records all above 390 pounds of fat in a year, and ranging up as high as 665 pounds, with a magnificent average for seven grade cows of 446 pounds of fat in a year. These grades were fine, large, strong cows and they showed by inspection their ability to maintain large production of milk for many years. These splendid cows were all produced by the method of 'grading up' and no stronger argument for building up the dairy herd by the use of a good pure bred sire could be given than this exhibit. It is a practical, common-sense way that is within the reach of every farmer who is able to keep cows at all.

To add to the instructiveness of this exhibit, most of these cows were not blanketed but could be carefully inspected by every one at all times. They were not unduly fitted for show purposes, but were in good practical working order for economic milk production on the farm. This method of handling is to be most highly commended. The production of these grade cows is decidedly more than twice that of the average cow in Illinois. With this sort of a herd, drudgery, equipment, and expense can be halved, and in the very same operation the profit doubled, and the number of enthusiastic dairymen increased." - W. J. Fraser, Dairy Dept., U. of I.

Shipping Association Results - "I believe the Richland County Cooperative Live Stock Shipping Association, which began operations here in April, contains a feature different from that of any other association in the state. Membership is confined to members in the Farm Bureau. Any non-member may ship thru the association by paying a fee of ten cents per hundred pounds on all stock shipped. An insurance fund of one-half per cent is charged to both members and non-members alike. It is interesting to know that the membership fee for the first six months of the organization on 42 cars amounts to \$340.07. The insurance fund amounts to \$319.68 giving us a total sinking fund of \$688.75 and leaving a balance after claims and other expenses have been paid of \$239.49. Many non-members have made repeated consignment to cars going out." - H. B. Piper, Richland Co.

Shippers Hold Social Event - "Tuesday evening, October 10, the Alledo Live Stock Shippers' Association sponsored a very successful oyster supper in connection with their annual meeting. About 375 or more were in attendance. This is the first social event the association has ever held, but you may be sure it will not be the last." - P. S. Richey, Mercer Co.

Democrat Wins - "We have lots of democrat corn planted where chinch bugs are bad and on every farm this democrat corn has eared out well and stands up straight even where chinch bugs of the second brood have almost ruined ordinary corn." - E. T. Robbins, DeWitt Co.

The first part of the paper discusses the importance of the study and the objectives of the research. It also mentions the scope of the study and the limitations. The second part of the paper discusses the methodology used in the study. It mentions the data sources and the statistical methods used. The third part of the paper discusses the results of the study. It mentions the findings and the conclusions. The fourth part of the paper discusses the implications of the study. It mentions the policy implications and the future research. The fifth part of the paper discusses the conclusion of the study. It mentions the overall findings and the recommendations.

Let the Hogs Do It - "\$2.00 an acre is what J. M. Evans' Duroc Jerseys saved him on corn husking. By October 10 they had cleaned up 20 acres yielding 40 bushels per acre. They saved \$1.20 on husking, 40 cents board on ran and 40 cents wear on wagon, dump and crib room, total \$2.00 per acre. And when they got thru the corn was all shelled, ground, and ready to sell at more than \$1.00 per bushel. Hog husking beats hand husking." - E. T. Robbins, DeWitt Co.

Improved Seed Makes Better Potato Crop - "We have a fairly good potato crop. Farmers are digging them now. A much better crop of smooth, uniform tubers are coming in to town as a result of the carload of certified seed shipped in by the Farm Bureau last spring and its work in getting farmers to treat their seed for scab. We have successfully demonstrated the value and need of good seed potatoes." G. F. Baumeister, Stephenson Co.

Potato Leaf Hopper Control - "Final results on the leaf hopper control plot were obtained during the week. The application of four 4-4-50 bordeaux sprays during the season gave an increased yield of 32 bushels per acre. The sprayed potatoes yielded 198 bushels and the unsprayed 166 bushels per acre. At 60 cents per bushel an increase of \$19.20 was received. It cost \$7.20 per acre to spray leaving a net profit of \$12. per acre. These results can be considerably increased, we believe, next year by using a pressure of 150 pounds or more. Our results were obtained with about 50 pounds pressure. We expect to try and push the use of combined potato and orchard sprayers." - C. C. Burns, JoDaviess Co.

Sweet Clover Withstood Dry Weather - "In getting about over the county we discover the fact that stands of sweet clover have withstood the hot, dry season much better than have the other clovers." - L. W. Wise, Iroquois Co.

Clover Sown in February on wheat is universally good stand, while practically all clover seeded in oats and the clover sown in April on wheat is a failure." - E. T. Robbins, DeWitt Co.

Soil Testing Meetings - "During the week two soil testing meetings were held. Each farmer attending was asked to bring several samples of soil from his farm. At the two meetings 120 samples of soil were tested for acidity. Only one farm showed that the soil was sweet and the owner of this farm was growing lots of clover, sweet clover and alfalfa. The demonstration was interesting to the men as they all were anxious to find out the condition of their soil. We are planning to hold such a meeting in each township." - J. C. Kline, Boone Co.

Poultry Show - "As a result of our plans to hold the B. & O. Poultry Club Show in connection with a county show the old county poultry association has been revived and is going ahead with a show this year, the first since 1918. I don't know whether a poultry association should be classed as a livestock breeder association or not, but if so this is the first to be organized in Lawrence County." - H. C. Wheeler, Lawrence Co.

New Orchards - "The recent rain makes it possible to begin preparation for the setting of the 17,500 apple and peach trees ordered. There is considerable enthusiasm. We are having meetings and demonstrations in planting orchards, the first in connection with the Farmer's Institute." - L. Kimmel, Pope Co.

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A cheerful smile never offends

The first part of the book is devoted to a general introduction to the subject of the history of the English language. It deals with the various influences which have shaped the language, from the early Celtic and Saxon roots to the modern English of the present day. The author discusses the role of the Norman Conquest, the influence of French, and the development of the language through the centuries.

The second part of the book is a detailed study of the English language in the Middle Ages. It covers the period from the Norman Conquest to the end of the fifteenth century. The author examines the changes in grammar, vocabulary, and pronunciation, and discusses the influence of the Great Vowel Shift. He also considers the role of the English language in literature and in the development of the nation.

The third part of the book is a study of the English language in the modern period. It covers the period from the sixteenth century to the present day. The author discusses the influence of the Renaissance, the development of the English language in the seventeenth and eighteenth centuries, and the changes in the language in the nineteenth and twentieth centuries. He also considers the role of the English language in the development of the English Empire and in the modern world.

The fourth part of the book is a study of the English language in the future. It discusses the changes in the language which are likely to take place in the twenty-first century, and the role of the English language in the globalized world of the future.

The book is written in a clear and concise style, and is suitable for students of the history of the English language. It is a valuable resource for anyone who is interested in the development of the English language, and in the role of the English language in the world.

The book is divided into four main parts, each of which is further divided into chapters. The first part is an introduction to the subject, and the second part is a study of the English language in the Middle Ages. The third part is a study of the English language in the modern period, and the fourth part is a study of the English language in the future.

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The Extension Messenger

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NOV 3 1922

A series of brief notes from the weekly reports of the Farm
Advisers, College and Experiment Station Workers and the
State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

November 1, 1922.

No. 44

Forcing

"Altho hundreds of market gardeners and a few farmers are forcing rhubarb commercially, few people realize how easily rhubarb may

Rhubarb

be produced for the home supply thruout the winter months. An area four feet square in the cellar is sufficient to produce the

winter's supply of rhubarb for the average family. Forced rhubarb is usually crisp and tender and is less acid than out-door grown rhubarb; and in the winter months fresh rhubarb sauce is particularly palatable. Rhubarb is forced by bringing in good strong roots and giving them proper moisture and temperature conditions. The roots may be bedded in sand or soil or even coal ashes, as the forced growth is made entirely from food material stored in the roots. Strong roots of any age may be used, but the largest stalks are generally produced from three or four year old roots. The beds should be thoroly watered whenever necessary to maintain proper growing conditions.

Before attempting to force the roots, it is important that they be thoroly frozen. Freezing and a short rest period will result in greatly accelerated growth when the roots are forced. It is best to dig the roots late in the fall just before freezing weather and to cover them with straw so that they will not dry out while they are allowed to freeze. After being thoroly frozen they may be brought in and forced. A temperature of 55° to 60° is ideal for forcing. Lower temperature will result in slower growth, and higher temperature will result in spindling stalks. Sunlight is not required for forcing rhubarb. In fact, the best results are secured in a subdued indirect light. Yields should average 10 pounds or more per root. It requires about five weeks from the time the forcing commences until harvesting may begin. The same roots will then continue to produce for six weeks to two months." - C. B. Sayre, Dept. of Horticulture, U. of I.

Wild Garlic is without question the most serious weed pest in Monroe County. It seems as though it has been looked upon by farmers as a necessary evil and instead of having eradicated it, they have been spreading it each year. The farm bureau executive committee feels that it is possible to eradicate wild garlic entirely. A special committee has been appointed on this work and a regular program for garlic eradication has been outlined. One part of the program is the establishing of demonstration fields for the purpose of showing that garlic eradication can be accomplished. Two fields in different parts of the county will be started this fall. We believe that this is one of the most important pieces of work the farm bureau has ever set out to accomplish." - Alfred Tate, Monroe Co.

Illinois Club Team Wins at National Dairy Show - "In competition with teams from 10 other states, the Whiteside County Demonstration Team brought honor to itself and Illinois by winning first at the National Dairy Show. The team was composed of Alvin Heusinkvelt, Ellen Hamstra, and Walter Hoover and was coached by E. G. Thiem, the county club leader." - H. F. Wolter, Club Leader.

Securing Cooperation of Beef Cattle Breeders - It may be that you have been wondering how you can interest live stock breeders in their breed associations. Maybe your cattle breeders have not taken as much interest in their work as you would like. There's a reason. Has it not been that they organized with nothing definitely planned to do? A baby beef club offers a definite project that should interest cattle breeders and feeders. Interest them by calling a meeting to talk over the plans for a small club of 15 to 20 in your county, or interest a few breeders to organize a local club in their home community. It should be possible to secure sufficient calves of good quality within the county. Calves dropped between January 1, 1922 and September 1, 1922, should be used. Feeding should begin in December but may be started later. Interest the breeders in furnishing the calves and in securing club members to feed them and let them arrange meetings in their home communities to secure this membership. Arrange to be present to give assistance in these meetings and plan some follow-up work for next summer. Organize a club tour to visit some of the breeders' herds as well as the members' projects. Conduct beef judging contests for the adults, as well as for the Juniors and arrange for a community show of the calves for next fall before the county exhibit. Such a project should not fail to interest even the most inactive breed association." - Herbert Wolter, Assistant State Leader, Club Work, U. of I.

Duroc Jersey Consignment Sale - "The Breeders took care of their own sale from beginning to end. They prepared their own catalogue and folders, clerked their own sale, prorated expenses and did it all up in good share. This demonstrates that these men are capable of running their own sales without any assistance from the farm bureau office other than the clerical work supplied by the office secretary." - A. A. Olsen, Warren County.

"We have just closed our chicken culling demonstrations which were started on July 16. We held 86 culling demonstrations during the season. Out of more than 10,000 hens there were 4,032 culls. It would be impossible to figure the entire benefits derived from this work, but we figured that we saved the members, who had this culling done, at least \$6,000 in savings on feed. We are hoping that greater benefit will come thru better and more economical production." - C. T. Hufford, Wayne County.

Township Programs - "The matter of a county program of work was discussed at the last executive meeting and it was concluded that where it was possible, programs should be worked out with each township committee. It is the intention to take the best working townships and develop a program in each with a representative committee of men and women. The other townships which do not respond to this will undoubtedly adopt a county program suggested by the county executive committee. We feel that each local unit in the county should develop its own program and carry it thru. It is the intention to hold township meetings just as soon as possible, elect a chairman, have this chairman appoint a committee of six representative men and six representative women to meet with the farm adviser to work out a program and fix responsibility for each project adopted." - A. A. Olsen, Warren Co.

"We added another limestone grinder to the equipment owned by our limestone crushing company to help us catch up with the demand for limestone. 2300 tons have been pulverized so far this season. 800 tons will be crushed out of the quarry now being operated. We expect Stephenson County to be 'landscaped' with alfalfa fields next year." - G. F. Baumeister, Stephenson Co.

Local Limestone Crushers - "We will soon have another limestone crushing outfit in operation which will be owned by a farmer who expects to crush for his own 400 acre farm and perhaps for neighbors. Two or three of these outfits are now in operation and are much more satisfactory than shipping in limestone. Some of our farmers are hiring rock crushed on farms as cheaply as it can be shipped in." - G. T. Snyder, Ogle Co.

Smooth Corn Yields Highest - "The corn plot on the George Bennett farm was husked Wednesday with Prof. Hackleman present. Yields varied from 59 to 68 bushels per acre for the different strains of farmers' corn. In general the corn showing the most disease in the seed last spring showed the most disease in the crop just harvested. The two high yielding strains were the smoothest types of corn in the test." - E. T. Robbins, DeWitt Co.

Soy Varieties - "Last spring eight of our farmers cooperated in planting variety test plots for nine varieties of soy beans. Last Monday when we held our soy bean tour, our farmers were practically unanimous in making the following selection of varieties for various purposes: Hay-Illinois, Virginia, and Wilson. With early and medium maturing corn for the silo-Virginia. With late maturing corn for the silo-Mammoth Yellow. For seed or with corn for hogging dow-Haberlandt. Judging from this season's experience, soy beans surpass cowpeas, decidedly, and make good growth, even in a very dry season." - W. E. Hart, Clay Co.

Soybean Picker - "H. O. Proctor, one of our members has recently purchased a soy bean picker and is now trying it out. Mr. Proctor is very enthusiastic about his new machine and believes it to be a very valuable addition to his supply of farm machinery. He puts out a large acreage of soy beans each year - principally for seed. I visited his farm one afternoon and watched him demonstrate the machine. This is the first of these machines to be brought into our county." - F. A. Gougler, Adams Co.

Alfalfa Project Forward - "So successful have the farmers been in raising alfalfa according to our directions that the banks are backing a project to stimulate a wider use. The banks of the county will loan for one year the funds to one farmer in each township, who has not grown alfalfa, to buy one car of limestone provided he grows the alfalfa according to the directions of the farm adviser. A gold medal will be given to the man who is the most successful in this project." - J. C. Kline, Boone County.

Loan Associations Meet - "Attended a group meeting of representatives of Farm Loan Associations at St. Louis. This meeting was sponsored by the Federal Land Bank of the 6th district and held for the purpose of discussing measures for making the work of the loan associations more efficient and serviceable to farmers needing credit. I believe this meeting was effective in creating a better understanding among those concerned in this work and will accomplish much in facilitating loans to farmers in the future." - E. M. Phillips, Greene Co.

A Livestock Shipping Association School will be held at the Statler Hotel in St. Louis, November 9, under the direction of the University of Missouri, University of Illinois, and the Illinois Agricultural Association, for shipping association officers, managers, and farm advisers. Session begins at 9:30 A. M.

Some men are born great and others roll up their trousers and wade right into the midst of greatness.

The Extension Messenger

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NOV 16 1922

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

November 8, 1922.

No. 45

Sunflowers as a Silage Crop

"Sunflowers have come into quite general use as a silage crop in regions in which successful corn raising is uncertain on account of insect pests or climatic factors. Reports from those who have fed sunflower silage to dairy cows indicate wide differ-

ence in the degree of success attending the results of the use of sunflowers for silage. With the object of ascertaining, if possible, the cause of these differences and methods of overcoming the difficulties involved, the University of Illinois undertook an investigation which has recently been brought to a conclusion.

As a result of the data secured, it was concluded that under the field conditions obtaining at Urbana, sunflowers ensiled at a comparatively immature stage of development, (that is, when 20 to 25 percent of the plants begin to show the rays of their blossoms), make much better silage than those harvested at later stages of development, and there are no advantages, from the standpoint of a silage crop, to be gained by allowing the plants to become more mature. Some of the factors which led to this conclusion were as follows:

Sunflowers ensiled at the immature stage mentioned yielded silage which was more palatable than that produced from the more mature plants. Thensunflower silage produced from the immature plants served to maintain the production of milk more nearly on a level with that of corn silage rations than did the sunflower silage from the plants ensiled at more advanced stages of maturity. The silage from the earliest cut plants proved more digestible than that from the later cut. Altho the total amount of dry matter in the crop continued to increase somewhat until the seeds became mature, there was no significant increase in the crop yield of digestible nutrients per acre after the crop had passed the stage when about 25 percent of the plants were in bloom. The corn crop, on the other hand, normally continues to increase rapidly in total digestible nutrients until the crop reaches the stage when it is ready to be put in the 'shock'.

The results obtained warrant the recommendation that where sunflowers are grown for silage under field conditions similar to those at Urbana that the crop be ensiled before it has passed the stage when 20 to 25 percent of the plants are in bloom." - W. B. Nevens, Dairy Production, U. of I.

Leave Money in Local Banks Until Needed - "Last year our farm bureau tried a different method of handling funds. The executive committee inaugurated the practice of leaving funds at the various banks where memberships are collected, until such time as the money is needed; then a portion withdrawn at a time. This, we feel, has created a better spirit among the bankers and has given such good satisfaction that the same plan is being followed out this year. On Thursday and Friday of this week the membership checks were distributed among the various banks and a committee in charge secured a very satisfactory response." - F. M. Bane, Henderson Co.

Spring vs Fall Plowing - Some months ago the division of Soil Physics requested from a number of the county farm advisers an expression of their beliefs and observations concerning time of plowing. Replies, coming in from representative areas all over the state, showed a very decided unanimity of opinions and illustrations. If these replies may be composited, it would appear that, from a practical viewpoint, the points to be considered are these:

1. Heavy soils - clays, clay loams, and heavy silt loams - may be fall plowed for the granulating effect of winter temperatures.
2. Timber soils, and, as a group, those types low in organic matter, seem to run together when fall plowed and the resultant physical condition is a strong argument for spring plowing. It is obvious that any area of timber (or other types) subject to erosion should not be plowed in the fall.
3. Reports upon crop returns were about equally divided, and the authors admitted that they doubted if field experiments would substantiate their opinions.
4. Labor distribution was quite generally pointed out as the outstanding argument for fall plowing, except on those types where consequent puddling increased the amount of spring tillage necessary for seed-bed preparation.

Among other factors not mentioned in the above correspondence, there are a few which may also be of some importance. Early fall plowing seems inadvisable because of the resultant leaching of nitrates. Late fall plowing may be of considerable value in killing insect pests; it also permits of deeper plowing and the turning under of coarse or resistant organic matter. If a catch crop is grown, spring plowing will allow an appreciable spring growth; manure may be spread in the late fall and winter before spring plowing, and leaching losses are reduced to a minimum.

As noted by many of the farm advisers, the relative crop yield advantage seems to fluctuate, possibly with local climatic conditions. The corn yields given below show this same fluctuation, which from the differences noted might be either seasonal or inherent in the soil. These data are taken from the depth and time of plowing experiment on the University South Farm, representing the bushels per acre of corn, immediately subsequent to the tillage as indicated.

<u>Time</u>	<u>Depth</u> <u>Inches</u>	<u>1915</u>	<u>1916</u>	<u>1917</u>	<u>1918</u>	<u>1919</u>	<u>1920</u>
Fall	12-14	67.0	43.0	72.4	61.3	64.2	86.6
	7-8	66.6	40.2	70.7	63.4	61.0	88.3
Spring	7-8	65.0	44.9	72.9	65.8	56.9	90.1
	3-4	67.1	43.1	70.3	63.7	52.4	82.9

These yields apparently show no mathematical or graphical differences which may be considered significant, simply emphasizing the wide variations between different years. We may, therefore, suspect from the evidence at hand that the question may not be decided from comparative crop returns; it seems that the decision between fall and spring plowing must be made by each farmer as an individual, upon the basis of the factors previously noted, together with any additional local conditions which may obtain." - M. B. Harland, Div. of Soil Physics, U. of I.

Results - "One of our members reported that the P. I. Southern Railroad was negligent about keeping their fences in repair so as to keep his stock in. The case was reported to the I. A. A. and in less than two weeks the necessary repairing was done." - A. A. Olsen, Warren Co.

Spring Flowering Bulbs for the Garden - "Spring Flowering Bulbs may be planted out of doors from September to December. October is the ideal time for planting, however, as this allows the bulb to become established and make a vigorous root-growth before the ground freezes. In preparing the bed, one must bear in mind that good drainage is essential. It is best if the bed or border is raised slightly so that the bulbs are above the level of the adjacent ground. Put on a liberal application of bone-meal, spade the bed deeply, and pulverize the soil. Active fertilizer should never come in contact with the bulbs or decay will surely take place. If one wishes to dig manure into the beds, this should be done in the spring or at least some time before planting.

Tulips, Hyacinths, and Narcissi should be planted 4 inches deep and 5-7 inches between bulbs; Anemones 1 inch deep and 6 inches apart; Crocuses 2 inches deep and 2 inches apart; and Lilies 5 inches deep and 12 inches apart. Be sure that bulbs of the same kind are all set at the same depth, so that there will be a uniform development in the spring, thus making sure that they will all flower at the same time. It is advisable to mulch the beds with straw, leaves, or strawy-manure after the ground freezes. This keeps the frost in the ground and prevents the alternate freezing and thawing which causes the soil to heave, thus injuring the roots. This mulch should be removed early in the spring before the bulbs start into growth.

The Darwins are unquestionably the finest of all the tulips. The Cottage, Breeder, and Parrot types should also be planted more than they have been in the past, as in many ways they are superior to the Early Flowering type which has been grown so largely for many years. The Dutch Hyacinths are the ones to use out of doors. The Roman Hyacinths are seldom used except for forcing under glass. As a rule the singles are more satisfactory than the doubles. Among the Narcissi there are several types which may be used. The Daffodils with large, medium, and short trumpets, come in the yellows, whites, and colors; the singles are better than the doubles, the Jonquils, the Poetaz, and the Poeticus types. The Polyanthus type, which includes the Paper White and the Chinese Sacred Lily, is not hardy, and so should not be used out of doors." - S. W. Hall, Assoc. in Floriculture, U. of I.

Use Radio in Membership Meetings - "Our time is being given to the organization of the county in preparation for the membership campaign on Nov. 16 and 17. As part of this organization work, we are holding a series of meetings over the county. At these meetings, the radio outfit we are using proves to be valuable in attracting large crowds. We have had good success with it and have furnished our audiences with some fine concerts from the air. This part of the program is furnished free of charge by the Eclipse Radio Company of Geneva. The set is carried along and set up just before the meeting each night. We find that it can be set up almost as fast as the movie equipment. At the meeting we furnish a radio concert, three reels of movie and a talk on the state and national farm bureau associations by an I. A. A. representative." - W. B. Richards, Kane Co.

P. R. Edgerton Farm Adviser of Rock Island County has offered his resignation effective Dec. 1st, in order that he may return to his home farm in Indiana. "Pal" has two fine boys who can hardly wait for the day when they can help Dad farm scientifically. O. E. Ackerson of Crawfordsville, Indiana, has been chosen to succeed Mr. Edgerton. Mr. Ackerson graduated at Purdue University in 1915 and is now county agent in Montgomery County, Indiana. He will arrive in Rock Island about Nov. 15.

Money still talks - if you don't choke it to death.

NOV 16 1922

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the State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V.

November 15, 1922.

No. 46

High and Low Ears "Readers of the Messenger who have watched the developments of the experiments in corn breeding to influence the height of ear will be interested to note that with the harvest of the present crop, 20 generations of this selection will have been completed. The measurements on this crop have just been taken and they are as follows:

Average Height of Ear

High-Ear strain, 97 inches

Low-Ear strain, 11 inches.

That is to say, by taking an ordinary variety of corn and selecting continuously for high ears and for low ears two different strains have been produced, the one of which carried its ears 8 feet from the ground and the other one foot from the ground. As a ten-year average the high ears have yielded at the rate of 39.2 bushels per acre, while the low ears have produced 46.8 bushels per acre. A bulletin is in preparation which will give somewhat completely the records of this work from the beginning." - L. H. Smith, Dept. of Agronomy, U. of I.

Value of a Farm Machinery Shed - "The damage done to 10% of the farm machinery in Illinois, the estimated percent which stands out-of-doors, amounts to about two million dollars annually. If this one-tenth of Illinois' \$222,000,000 worth of machinery has its annual depreciation reduced from 20% to 10% by being housed, the saving will be more than two million dollars. It is safe to say that protecting machinery from the weather by housing will double its life. A machine shed when housing this machinery will pay interest at a rate of more than 20%, figured on the basis of an investment. Furthermore, indirect losses which follow poor housing are the extra time required to limber up rusty machines and the delay at critical times from the breaking of a rusty or weakened part.

The machine shed should be located near the road from barn to fields on well drained ground. The construction need not be expensive. A good roof is the most important feature, however, it is desirable to have tight construction and close fitting doors so as to exclude sun, snow, and wind and to prevent chickens from entering. The design of the shed will vary somewhat with the machinery to be stored. A shed 26 feet wide is sufficient for two rows of machinery; either two machines of average length or one long and one short machine. The length will vary with the number of machines to be stored. A door 7 or 8 feet high and 12 feet wide should accommodate most machines. The door or doors, if more than one, should be hung on rollers. Dirt or cinder floors are the most economical.

Complete working plans of machine sheds can be secured from most agricultural colleges at the cost of the blue prints. A list of blue prints available from the Farm Mechanics Department of the University includes a plan for a 26' x 48' implement shed of approved type." - R. C. Kelleher, Dept. of Farm Mechanics, U. of I.

Going to the International? - This question is being asked by livestock men everywhere, for the big Livestock Exposition is scheduled at the Union Stock Yards Chicago, Dec. 2 to Dec. 9, and those dates are not far off. Effort is being expended to make this one of the greatest livestock expositions ever held. A big grain and hay show will be held in addition to the livestock show. The University of Illinois is planning an exhibit and other universities will have exhibits which will add much to the educational feature of the Exposition. Everyone interested in agriculture should attend sometime during the week. Let's Go. - -

National Annual Meeting of County Agents will be held in Chicago during the "International" as usual. The date of this meeting is set for Wednesday, Dec. 6.

One Thousand Head of native Montana steers were shipped into Stockdale this week and are now on private sale to buyers. There will be more cattle feeding in Grundy County this year than the past two years. The company shipping these cattle in, made their arrangements thru the Farm Bureau." - W. Floyd Keepers, Grundy Co.

Sheep Profitable - "Walter Olson of Weldon had 40 ewes last spring which raised 69 lambs. He has sold \$485 worth of lambs and wool. Altho he has a prairie farm he thinks sheep are the best money making property he has." - E. T. Robbins, DeWitt Co.

Blue Ribbon Milk from JoDaviess County - "Mr. R. A. Vanzile of Cow Testing Association No. 2 won the Blue Ribbon at the Waterloo Dairy Show for the cleanest milk exhibited. The bacterial count per cubic centimeter was 1000, which is very low compared to the average milk produced on farms. Mr. Vanzile has been supplying certified milk to the Dubuque market for a number of months. This milk from JoDaviess County is the only certified milk produced for Dubuque." - C. C. Burns, JoDaviess Co.

"An Armistice Celebration was held at Robinson, November 11, and the farm bureau took part in the parade. Our section in the parade consisted of Indians, tepees on wagon, with a log cabin, well sweep, etc., wagon of relics, wagon with two farmers one on each side of a rail fence discussing farming problems. This was to represent the old way. The wagon was drawn by six white horses, and was followed by a wagon with the farm bureau committee in session, which was the new way of taking up farm problems. This wagon was drawn by six teams of black horses. A girl dressed in white represented Miss Crawford County. She was in a machine decorated in white. A banner was on each side of the machine expressing appreciation for the help during the T. B. drive. A wagon drawn by a lady and 21 children in white, each child drinking milk from a bottle thru a straw followed, and banners on the wagon read, 'We drink T. B. tested milk'." C. C. Logan, Crawford County.

"Considerable time has been given to starting the Farmers' Market in Bloomington. The opening day, November 4, was a decided success. Two hundred people were waiting to enter the market when the doors were opened at 9:30 A. M. Farmers bringing produce to the market sold out so soon that they wished they had brought more. Every one seemed to be pleased with the results. Great care is being taken regarding neatness, sanitation, weights and other details. A pure food inspector was on the job and he highly approved of the sales-room, booth arrangement and sanitary methods employed." - H. Fahrnkopf, McLean Co.

[The text on this page is extremely faint and illegible. It appears to be a multi-paragraph document, possibly a letter or a report, with several lines of text visible across the page. The content cannot be transcribed accurately.]

In a Variety Test checked up on October 25, of five varieties of corn, the Democrat, Sutton's Favorite, Boone County White, Reid's Yellow Dent, and Woodford County Yellow, the plot yields were as follows: Woodford Co. Yellow 61 lbs., Democrat 55 lbs., Reid's Yellow Dent 53, Sutton's Favorite 50 lbs., Boone County White 48 lbs. The Woodford County Corn was the Krug corn which won first in the three years' test there. The test was conducted on soil in the Mississippi bottoms, drab and black clay loam. The Krug corn was easily the soundest and ripest, while the Democrat contained the most moisture. On the per acre basis the Woodford County corn yielded 70.9 bushels per acre." - J. J. Doerschuk, Union Co.

Democrat Again - "Last spring I encouraged over 100 farmers to try out the democrat corn. We have asked each one of these men to report on the results of the corn. We have heard from several members up to date and they were well pleased with the results. The democrat corn, not only stood the bugs better than the other corn, but it stood the dry weather, especially on the uplands, much better than any other variety of corn. Mr. Emmet Anderson, For, Illinois, planted ten acres of this corn, joining a field of other white corn. This was all planted the same day and the land had been farmed exactly the same for several years and all cultivated alike. The ten acres in democrat corn will produce at least 15 bushels per acre more than the other field. Mr. Anderson feels that he has been helped at least \$75. in planting this democrat corn. He is now using, what he says is democrat corn money and buying limestone, applying it to part of this field at the rate of 4 tons to the acre. He expects to sow sweet clover on this land next spring and use it as a soil builder." - C. T. Hufford, Wayne Co.

Big Increase From Corn Selection - "An increase of 14.1 bushels of corn per acre was secured on the corn plots on Christ Hurst's farm by seed corn selection. One row of each of the three different kinds growing side by side were husked. The select plot yielded 68.6 bushels per acre and the corn of the starchy type yielded 54.5 bushels per acre. An increase of this amount during one year is certainly very profitable. If corn is figured at 50 cents a bushel, this will mean \$7.20 profit per acre from very careful seed selection." - C. C. Burns, JoDaviess Co.

A Car-Load of Limestone was received this week for experimental purposes mainly to demonstrate its effect on legumes. Four tons were given to each of five men at Eldorado. One man at Harrisburg received four tons, another six and another eight tons. At Carrier Mills two men received four tons each. The limestone is to be applied at the rate of four tons per acre. Some of it is to be used on wheat followed by sweet clover, some with oats and clover or sweet clover and some with cowpeas. It will be applied under direction of the farm bureau." - J. E. Whitechurch, Saline Co.

Control of San Jose Scale - "Held one demonstration in cooperation with Mr. Brock and Mr. Chandler on the preparation of the oil emulsion for the control of San Jose scale. Had a good demonstration with much interest as most of the fruit men are beginning to realize that we cannot control scale the way we have been spraying with lime sulphur and some of them are ready to try anything that will offer relief. I think this is one of the best things that has come thru the work of the University and Entomology Department." - Fred Blackburn, Marion Co.

1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It is a summary of the work done and the results obtained. It is a general statement of the work done and the results obtained.

2. The second part of the report deals with the work done during the year. It is a detailed statement of the work done and the results obtained. It is a detailed statement of the work done and the results obtained.

3. The third part of the report deals with the work done during the year. It is a detailed statement of the work done and the results obtained. It is a detailed statement of the work done and the results obtained.

4. The fourth part of the report deals with the work done during the year. It is a detailed statement of the work done and the results obtained. It is a detailed statement of the work done and the results obtained.

5. The fifth part of the report deals with the work done during the year. It is a detailed statement of the work done and the results obtained. It is a detailed statement of the work done and the results obtained.

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The Extension Messenger

A series of brief notes from the Farm Advisers, College
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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

November 22, 1922.

No. 47

Program of National Meeting of County Agents - "The annual meeting of the National Association of County Agricultural Agents will be held in the Assembly room 3rd floor of the Producer's Livestock Record Building, Chicago, Wednesday, December 6.

Morning Session 10 A. M.

Meeting called to order by M. L. Mosher, followed by reports of committees and officers. Questions for discussion-

1. Proper attitude of the County Agent toward requests for information regarding local conditions coming from various sources.
2. Proper part of County Agent in organization of commodity enterprises.
3. Advisability of holding sectional meetings of County Agents in connection with large agricultural gatherings. The appointments of committees and officers.

Afternoon Session 1:30 P. M.

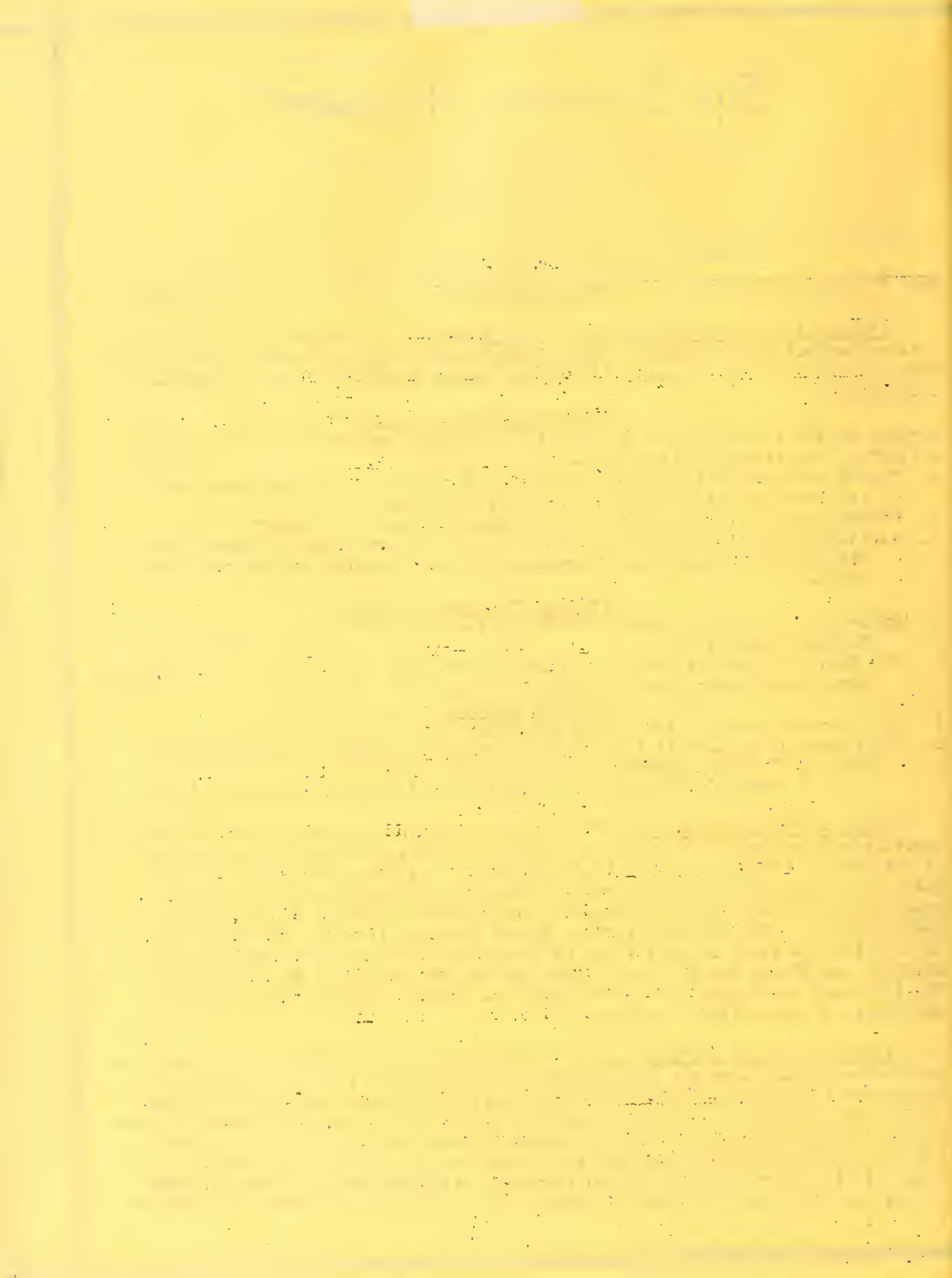
1. 'Importance of Graduate study for Extension Workers' - by J. M. McKee, State College, Pennsylvania.
2. 'The County Program of Work' - by John C. Coverdale, Secretary of the American Farm Bureau Federation, Chicago, Illinois.

Evening Session

1. The evening session will include a banquet at the Atlantic Hotel.
2. The principal speaker at the evening session and banquet will be Honorable Henry C. Wallace, Secretary of Agriculture." -
H. A. deWerff, Franklin Co., Secretary, Illinois Farm Advisers' Assn.

Death of Professor Mosier - The University mourns the loss of another of her agricultural leaders in the death of Professor Jeremiah George Mosier who died at his home in Urbana, November 10, following a protracted illness, which was made more serious by a severe stroke of paralysis. Professor Mosier was a graduate of the University of Illinois, and has been a member of the staff for about 25 years. His greatest service to the State of Illinois has been rendered in the classification of soil types in connection with the State Soil Survey of which he had charge for 20 years. Also, he was the author of two text books, "Soil Physics and Management", and "Soils and Crops" besides many bulletins and papers on agricultural subjects.

Junior Extension Service Plan - "The Boys' and Girls' Club work is more and more being handled thru the farm bureaus and home bureaus, and is usually administered by the farm adviser or an assistant, or the home adviser or some one cooperating with her. For this reason it seems logical that the administration of the work from the central office should be under the State Leader of Farm Advisers on the one hand, and the State Leader of Home Advisers on the other hand. It is believed that this new plan will stimulate and make more effective the work of the Boys' and Girls' Clubs." - H. W. Mumford, Director of Extension, U. of I.



Value of Club Work - "One of the encouraging features of the recent farm advisers' district conferences was the interest expressed by the advisers in the Boys' and Girls' Club Work. Approximately two-thirds of the farm advisers in the state are spending some time on this work and in many of the counties it is looked upon as one of the important projects of the farm bureau program of work. As our experience with club work progresses, it becomes more evident that this type of work assists materially in building a solid foundation for the future farm bureau. One farm adviser, who was formerly a county club leader, stated that an investigation of approximately 200 of his former club members, showed that more than 95 percent of them were either following some line of agricultural work or were attending college. In many cases, the former club members are now active farm bureau supporters. As a means of interesting farmers in live stock improvement work, the live stock club is an important agency. The club exhibits at the local fairs almost invariably arouse the keenest interest of any of the exhibits. It is also noticeable that boys seldom exhibit stock or show much interest in an exhibit unless they are members of some club. It is the desire of the Extension Service to see the club work progress and to assist in the movement in every possible way." - W. H. Smith, State Leader, Farm Advisory Work in Illinois.

The Farm Lay-Out - "The farm lay-out is just as important a consideration in the economical production of farm crops, as is the arrangement of the machines in any commercial manufacturing plant. The distance traveled in bringing in the raw material and taking out the waste products is so great and the area worked is so large, that any saving of time or distance that can be made by better field or building arrangement must not be overlooked. In only a very few cases, is a farm layout planned before any buildings are erected or fences built. It is usually unsuitable, inconvenient, or expensive.

One of the first things to consider in the location of the farmstead is sanitation. Buildings must be located where good drainage is possible. They must be so located with reference to each other that prevailing winds will not bring unpleasant odors from the barns to the house. They must be located, so that each field is readily accessible from the buildings for livestock, hauling in the crops, and getting the manure back to the land. They must be suited to the needs of the livestock and crops grown. Many farms are over equipped in buildings whose depreciation is a large expense that stretches over a long period of years. Some buildings are not suited to the use that is made of them, making the routine work or chores a slow process.

In the past it has been a general custom to locate the buildings as near a road as possible for social purposes. The telephone, and automobile have almost done away with this need and since so many more trips are made to the fields than to town, the location with reference to field convenience is most important. The rotation followed will determine the number of fields in the farm plan. They should be as near equal in size as the acreage and natural conditions will permit and as regular in shape as possible. Small or irregular fields are hard and expensive to work economically and require more fence per acre. In making plans for the farm lay-out it must be remembered that it is better to proceed slowly and to make what changes are made, with a view to the final arrangement, which may take years to complete." - R. L. Donovan, Dept. of Farm. Org. & Mgt., U. of I.

Sounds Like a Good Plan - "Rufus M. Parker of Kenney sowed 6 acres of alfalfa in Aug. 1921; then Oct. 1 he drilled Turkey 10-110 wheat. He threshed 35 bushels of wheat per acre and later on cut 14 big loads of hay off of the 6 acres." - E. T. Robbins, DeWitt County.

The Effect of Crop Residues on Yields - "The discontinuance of all experimental work on the Roland Farm, which is now a part of the Stadium Field, has suggested the advisability of reporting the results obtained from the use of crop residues. The experiment, as conducted by the Soil Physics Division since 1915, was to determine primarily the effect of crop residues on yields. The soil is brown silt loam. A four-year rotation of corn, oats, sweet clover and wheat (red clover) with soybeans as a substitute crop when sweet clover failed, was practiced. All plots, one-tenth acre in size, received uniform application of rock phosphate and limestone in 1915 and 1919.

All corn stalks remained on the 'Residues' plots, to which were returned also oat straw, wheat straw, and soybean or sweet clover chaff in proportion to the amounts produced. Both oat straw and wheat straw were applied late in the fall, after the ground was frozen, the former as a top dressing for wheat, and the latter on wheat stubble and red clover ground, which was plowed for corn the following spring. Sweet clover or soybean chaff was returned before plowing for wheat. Alternate plots, from which all residues were removed, served as checks.

The following table summarizes the yields secured from 1916 to 1922:

	<u>Corn</u>	<u>Oats</u>	<u>Wheat</u>	<u>Sweet Clover</u>	<u>Soybeans</u>
	6 crops	7 crops	7 crops	2 crops	2 crops
	Bu.	Bu.	Bu.	Lbs.	Bu.
Residues returned.....	58.1	58.2	39.1	3725	21.0
Residues removed.....	57.6	61.0	37.8	3815	18.7

The second table shows the increase or decrease in yield for the 'Residues' plot over the corresponding check in different years. These differences for corn, oats, wheat, and soybeans are reported in bushels, while those for sweet clover are in pounds.

Residues Plots	1916	1917	1918	1919	1920	1921	1922
	Corn	Oats	Sw.cl.	Wheat	Corn	Oats	Sw. cl.
311	5.5	-2.4	----	-0.7	4.0	0.7	-----
	Wheat	Corn	Oats	Sw.cl.	Wheat	Corn	Oats
321	-3.2	3.8	-7.2	-6.0	-3.2	-15.0	0.1
	Soybeans	Wheat	Corn	Oats	Sw. cl.	Wheat	Corn
331	-2.7	13.1	2.7	-9.9	-790	0.3	-----
	Oats	Soybeans	Wheat	Corn	Oats	Sw. cl.	Wheat
341	-5.5	7.3	7.3	1.9	3.5	----	-4.5

Until somewhat recently, it has been assumed that good farm practice demanded the utilization of all crop residues either directly or indirectly in manure as a means of maintaining the soil organic matter. This teaching, in so far as it included the return of the more inert residues, such as straw, directly to the soil, is now questioned. It seems that since the experimental evidence regarding this question is so meager, the safest course to follow is to continue to advocate the careful conservation and use of all organic residuals in an effort to prevent the depletion of this very important soil constituent. This appears to be one of the very important problems connected with the welfare of our land which needs immediate careful experimental study." - D. C. Wimer, Soil Physics Division, U. of I.

Five meetings were held at the corn root rot demonstration plots - Attendance was light on account of muddy roads, but the men who were present stated that they learned a valuable lesson. The plots were planted with 'disease type' and 'disease-free type' corn with 'field run' on either side. In every instance there was an increase in yield in favor of the 'disease-free' seed and the improved quality of this corn was more noticeable than the increased yield." - J. H. Lloyd, Hancock Co.

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Vol. V

November 29, 1922.

No. 48

Do Sheep Have A Place on Illinois Farms

"The well balanced system of farming calls for diversification. In diversifying farm enterprises is there a place for sheep? This is a good time to think of how to improve our farm practice and in so doing, let's not overlook a chance to make a little money even tho it will only pay the hired man for a month or two.

Sheep are not now kept on many Illinois farms because it is thought that they cannot be produced economically. It is very likely true that sheep would not return a profit on many high priced farms in Illinois if they were kept as a sole enterprise. On the other hand, a small flock on many farms will require only a small amount of care as an average for the year, and can be maintained on waste feeds to a large extent. Waste feeds will not do alone, however, for sheep need a liberal supply of protein and a legume roughage should form the basis of their ration when they are not on pasture. Other enterprises are generally supposed to be more profitable in the majority of cases than sheep raising. Properly handled a small flock will not compete greatly with other farm stock and economic production is possible if legumes and waste feeds are utilized. Attention should be given to both mutton and wool as approximately 66% of the income from a flock is from the sale of lambs and 34% from wool.

The dog is considered a great menace to sheep raising. While this is true, losses from this source may be greatly reduced or avoided if the sheep are enclosed at night in a yard which has a dog-proof fence. It is not the custom to raise sheep on most farms in Illinois, and many people know little about the needs of sheep. The disappointments, often due to carelessness, are more talked of than are the good qualities of sheep and the advantage of keeping them. Over a period of years a small farm flock given the necessary care, will return a profit on many Illinois farms. Records show that farm flocks have in many cases returned several dollars profit per head annually as an average for the last four years. Think it over. 'Woolies' may be all right on your farm." - W. G. Kammlade, Associate in Sheep Husbandry, U. of I.

Southern Illinois First! Step up and take your Honors - Massac and Madison Counties are the first to have their complete annual reports in our office. We celebrate their arrival as we go to press. Now all of you - let's go - a regular Os-ke-wow-wow!

Error in Last Issue - Thru the omission of one line in the copy there is an error in the last sentence of the first paragraph of the item "The Farm Lay-Out", page 2, No. 47. When corrected this should read, "In only a very few cases, is a farm lay-out planned before any buildings are erected or fences built. It is usually a rearrangement of the present lay-out which may be very unsuitable, inconvenient, or expensive." - Ye Ed.

"The savings of a man's lifetime are often but a drop in a bucket shop.

"Care of Light Plant Storage Batteries - Regular care of the storage battery is essential to secure the greatest service from it. The high depreciation in many storage batteries can often be greatly reduced by paying attention to the following points:

1. Locate the battery so that it is accessible for adding water and for testing.
2. Locate it so that it is well ventilated, with free air space on all sides.
3. Protect it from oil and dust.
4. Construct the battery rack so there is little opportunity for laying metal objects on top of the battery.
5. Keep the terminals greased with vaseline.
6. Clean off all spilled electrolyte with a cloth moistened with ammonia water or ordinary soda water.
7. Use only pure distilled water or rain water collected in an earthen or glass jar.
8. Never use metal funnel for filling.
9. Always take specific gravity before adding water.
10. Keep the electrolyte above the top of plates at all times by adding water as it is evaporated.
11. Examine each cell, see that vent plugs are open.
12. Keep all connections tight.
13. Follow carefully instructions of manufacturer." - E. W. Lehmann, Dept. of Farm Mechanics, U. of I.

Farm Accounts Used in Hearing - "The summarized results of the Woodford County farm account work were well used November 8 when the Illinois Agricultural Association and Farm Bureau officers presented the farmers' case before the Illinois Tax Commission. Mr. Johnston, assistant adviser, appeared as a witness presenting the data showing the income received by a large number of our farm bureau members who have kept careful records for several years past. I am continually more favorably impressed with the value of this farm account work, not only because of the rather exact data it gives for presenting in just such hearings as this one was, but for the splendid basis it gives for the best kind of demonstration work." - M. L. Mosher, Woodford County.

Will Keep Poultry Records - "Eight farm men and women, poultry keepers of the County and members of the Hancock County Poultry Association, started November 1 to keeping accounts on their poultry flocks in cooperation with the University of Illinois. These records will include the eggs and poultry produced, the feeds given, the financial statement, both income and expense, and a labor record. These farms are well scattered over the county and will be used as demonstration farms. It is planned to hold one or more meetings on each farm each year." - J. H. Lloyd, Hancock Co.

"Turning Cattle into Standing Corn has been very successful on the farms of Melvin Tuggle and Ira Hedrick. The cattle have done exceedingly well with no indication of over feeding. Cattle and hogs together have cleaned up everything in the fields." - E. T. Robbins, DeWitt County.

"Five Years Ago three to four tons of limestone were applied to one corner of a field on the farm of H. T. Eppel, Woodstock. The area covered was about six acres. This year the entire field was seeded to small grain and sweet clover. The sweet clover on the six acre tract on which the limestone was applied, is over 12 inches higher than the stubble, while the sweet clover on the remaining area is about half as high as the stubble and only about 75% of a stand." - A. J. Gafke, McHenry County.

A MAN'S JOB

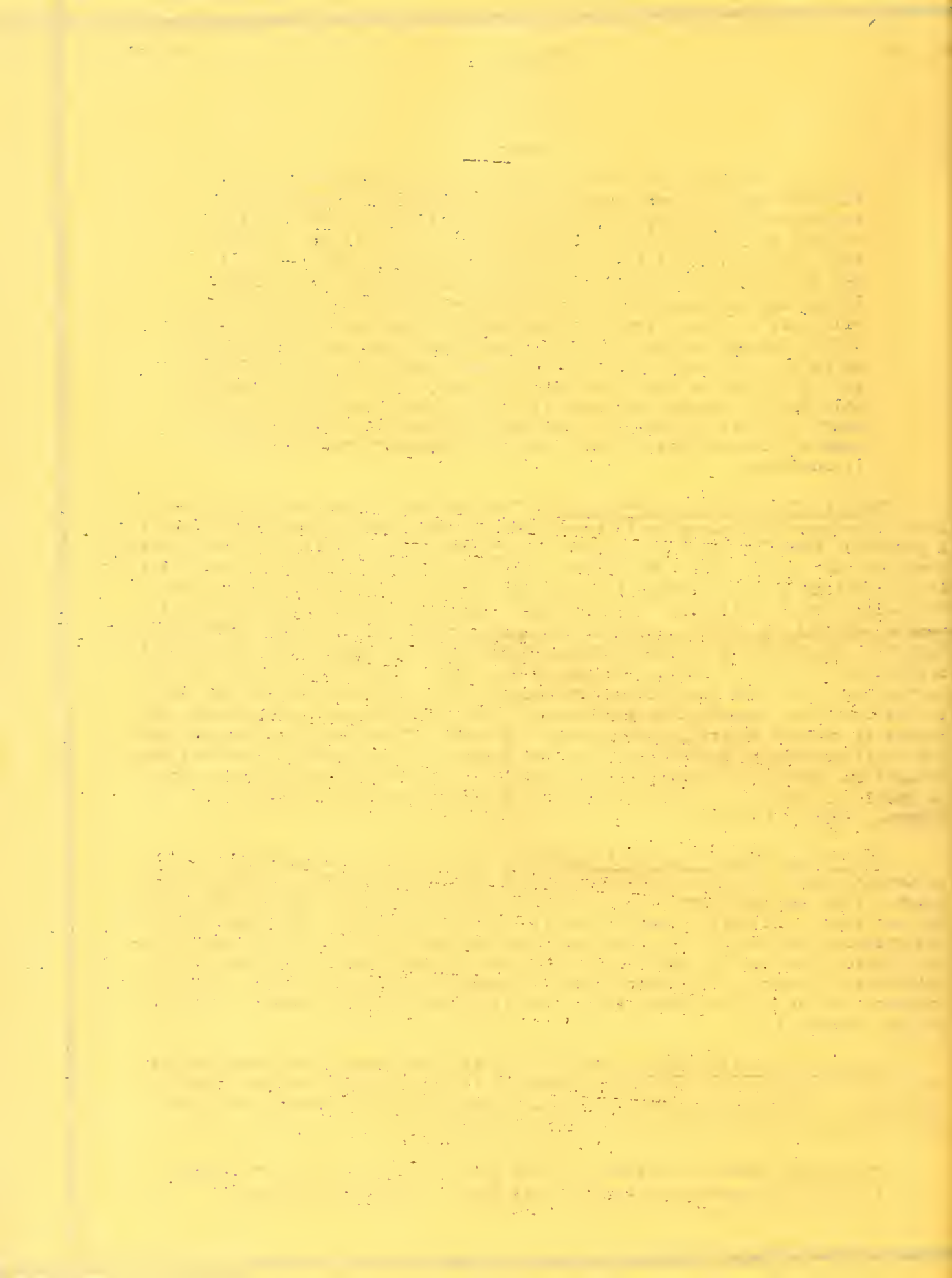
"A Man's job is his best friend. It clothes and feeds his wife and children, pays the rent, and supplies them with the wherewithal to develop and become cultivated. The least a man can do in return is to love his job. A man's job is grateful. It is like a little garden that thrives on love. It will one day flower into fruit worth while for him and his to enjoy. If you ask any successful man the reason for his making good, he will tell you that first and foremost it is because he likes his work - indeed, he loves it. His whole heart and soul are wrapped up in it. His whole physical and mental energies are focused on it. He walks his work, he talks his work, he is entirely inseparable from his work; and that is the way every man worth his salt ought to be if he wants to make his work what it should be and make of himself what he wants to be." - Senator Arthur Capper in Trained Men.

"Pulaski County has an Apple Club - The members of this club will plant fifty one-year old Winesap apple trees and will take entire care of the same for a period of from five to eight years. The prizes offered will be awarded at the close of each year's work. The first prize is to be the choice of a trip to the Annual Meeting of the Southern Illinois Horticultural Society or \$25 in cash. The second prize is \$15 and the third \$10. Also every boy who completes the year's work will be given a copy of the annual report of the State Horticultural Society. Monthly club meetings will be held and it is hoped tours to the best orchards of different sections of the state. The awards will be based 50% for participation in club activities, the records kept and story written and 50% on the care and management of the orchard. The orchards will be inspected and judged at regular intervals during the club year. There is a real desire among our fruit growers to interest boys in the business of orcharding. We feel that because our soils and climate are especially favorable for fruit growing that we should go ahead in a sensible manner and develop our fruit lands." - W. R. Eastman, Pulaski County.

The Edwards County Farmers' Institute which had been allowed to die was rejuvenated this year and a very successful session has just been held at West Salem. Four sessions were held in two days and one session each evening, making six sessions in all with a total attendance of 2,400 people. The farm bureau had splendid cooperation from the people of the community. A farm products exhibit which excelled in every way that put on at the county fair, was a most interesting feature. The program was an especially good one. Just enough movies interspersed in the two days' work to add flavor to the attractions." - F. H. Kelley, Edwards Co.

Hand in Hand with Grange - "On Tuesday the farm bureau put on an exhibit at the Osco Grange Fair, an Annual Country Fair conducted by the Osco Grange. On Friday, we did the same for the Galva Grange Fair. The Granges are good farm bureau cooperators." - J. W. Whisenand, Henry Co.

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"Wool Pool shows net returns ranging from 29.8¢ to 40.4¢ - an average gain of 6 2/3¢ per pound over locally sold wool." - Brown, Stark Co.



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Vol. V

December 6, 1922.

No. 49

Keep the Legumes At Work

"A sample of Pulaski County soil was brought into Dr. Hopkins' laboratory in 1902, which was so low in nitrogen that it was jokingly referred to as a nitrogen-free soil. This seemed very good material to test out the value of legumes for nitrogen fixation.

A series of greenhouse experiments was thus started to study this problem, and the twentieth crop was harvested this year. Wheat was grown continuously (one crop per year) on the whole series and, on certain pots, cowpeas were grown as a catch crop and returned to the soil for the following wheat crop. Oats were substituted in 1907 and 1915, so that only eighteen wheat yields are available. The following table shows the treatment and wheat yields on the pots in this series which have to do with the legumes.

Treatment	<u>Bushels of wheat per acre</u>		
	Average 1st 9 years	Average 2nd 9 years	Average 18 years
O	13.8	11.7	12.8
L Legume	44.9	45.2	45.0
L P	19.4	15.4	17.4
L P Legume	63.3	43.6	53.4
L P K	18.6	12.3	15.5
L P K Legume	54.3	54.0	54.2

L Lime - one application - sufficient to neutralize acidity

P Phosphorus - (bone meal) - approximately 750 pounds per acre per year

K Potassium chloride - approximately 300 pounds per acre per year

In analyzing these data, it must be remembered that yields are ordinarily higher in the greenhouse than under field conditions due, in part, to the fact that moisture and temperature relations are much more constant.

If these data justify drawing conclusions, it would appear that:

- (1) Cowpeas used as a green manure crop have exerted a very marked influence on the wheat yields on this soil.
- (2) Other data, not included here, obtained from the use of dried blood, indicate that nitrogen is the limiting element in this soil. The benefit of the legume is doubtless largely due to its ability to furnish nitrogen.
- (3) Phosphorus and potassium have given satisfactory returns only when the other limiting element has been supplied.

This does not infer that the cowpea is the best legume to use as a catch crop, but serves only to point out the benefit that may result from the use of legumes in this way." - O. H. Sears, Division of Soils, U. of I.

Soy bean meal is being used with satisfactory results by McHenry Co. dairy men to replace linseed and cotton seed meal. The saving is several dollars per ton. - J. D. Bilsborrow

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

Tractor Short Course - "The Department of Farm Mechanics, College of Agriculture, University of Illinois will conduct two one-week tractor schools at Urbana, Illinois, during the weeks of January 8 to 12 and January 29 to February 3, 1923, for the benefit of the farmers of the State. The second one week tractor course comes the week after the Farmers' Short Course Week. The total registration for each course will be limited to 35 students. Twenty-two hours will be devoted to lectures and twenty-two hours to practical laboratory work during the week. The lecture work in the course will cover the construction, theory, operation, adjustment and repair of engines and tractors. The laboratory work will consist of practical work in engine and tractor operation, magnetoes, carburetors, engine timing, ignition wiring, trouble work, and adjustments. In the laboratory there are 35 different makes of gas engines, and 16 tractors of the most representative types. The laboratory is well equipped with magnetoes, carburetors, and engine parts. Those who desire to attend the School should write at once for information and if possible state the week for which they wish to register." - Ray I. Shawl, Division of Power and Field Machinery, U. of I.

Farm Advisers will assist materially if they can disseminate this information to all who might be interested. - Ye Ed.

"Should We Recommend the General Use of Spreaders in this State?" - During the past year some experiments have been carried on in this state to test the effect of a spreader (casein) in sprays for the control of the codling moth. Unfortunately the codling moth was not abundant enough in the orchard where we carried on the test to justify us in drawing any conclusions.

Very extensive laboratory tests have been made with spreaders in Illinois; in this series of tests the spreaders usually gave markedly better covering than was the case without it. However, in some of the field experiments carried out in other states there were more worms in the apples sprayed with arsenate of lead and spreaders, than those where no spreader was used, altho the reverse has been true in others. All we can say for this material at the present time is that it does give a better cover. The experimental work along this line will be continued. Remember that this is just the indication so far obtained from our experiments and not a definite conclusion. From the results of field tests we do not feel justified in recommending the use of this material this season." Departments of Horticulture and Entomology, U. of I.

"The Corn Disease Test Plot was husked. It showed 17.7% leaning stalks in the nearly disease-free plot, while the moderately diseased plot showed 22.5% leaning stalks. The total yield was 96.8 for the nearly disease-free corn and 82.8 bushels for the diseased corn, a difference of 14 bushels per acre. Taking into account only the marketable corn on these plots, the nearly disease-free showed a yield of 95 bushels per acre and the diseased corn 79 bushels, or a difference of 16 bushels per acre." - L. S. Griffith, Lee Co.

Cow Testing Associations Valuable - "The high cow in the county in the Cow Testing Association has produced in eight months 514 pounds of fat, 10414 pounds of milk making a profit above cost of feed of \$164.18. Last year was the first year for this cow in the Cow Testing Association work. In ten months time, she produced 356 pounds of fat, 921 pounds of milk making a profit of \$97.56 above feed cost. This is a 9 year old grade cow. Her improvement under the association is worthy of note." - C. C. Burns, JoDaviess Co.

Cooperative Shipping Advanced Local Wheat Price - "In our report a week ago, mention was made of an advance in the local price in wheat amounting to ten cents per bushel, on the same day a cooperative consignment of wheat was shipped from the county by the Farm Bureau. Another advance of five cents per bushel came within a week. There has been no change at the St. Louis terminal market in the price of wheat since the cooperative consignment was made. The 15¢ advance, therefore, can be attributed to no other cause other than that of the cooperative consignment." - H. B. Piper, Richland Co.

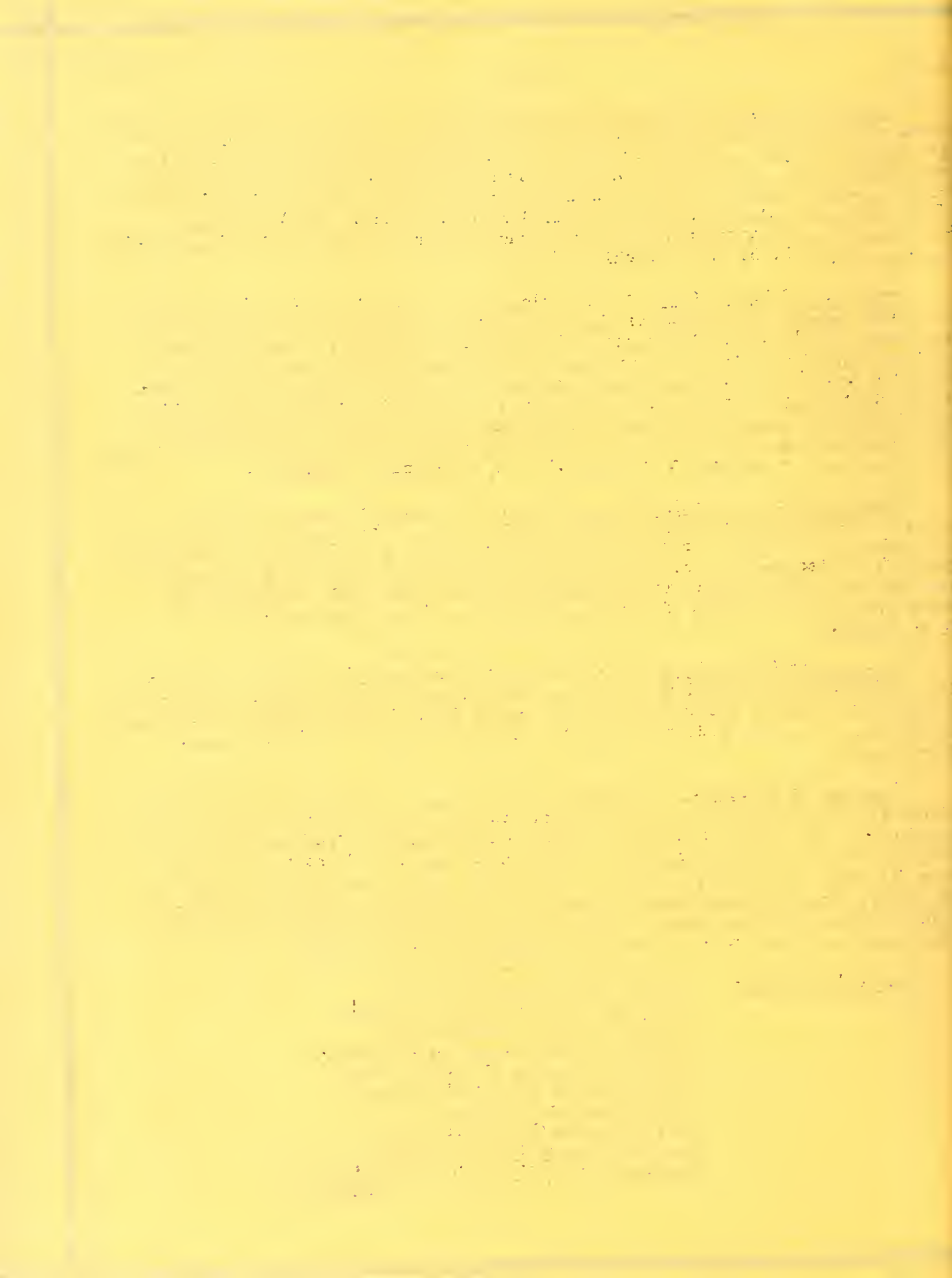
"The Sale of Eleven Cars of sweet clover seed since the first of September in Grundy County, is evidence of the large acreage and widespread adoption of this crop as a legume in the county. This totals approximately 500,000 pounds of sweet clover seed that has put back into the hands of the growers, better than \$35,000. The efficiency with which the seed crop is handled and the additional improvement to the soil on which it is grown, makes the crop one of the most profitable grown by farmers in the county. The noticeable development of this crop has taken place within the last four or five years since the Farm Bureau has given special emphasis to the crop." - F. E. Longmire, Grundy Co.

"Farmer Waging War Against Chinch Bugs! - Are burning fence rows in 42 counties this month", says the Kansas Extension News. This shows that Illinois is not alone in the fight. From the appearance of that map of "Illinois Chinch Bug Infested Territory" that Mr. Flint recently put out, it looks as if we should take up the torch and apply it methodically to all fence rows, roadsides and bunch grass where the most of our bug enemies live "comfy over the winter". - C. A. Atwood.

For Another Good Calf Club - "Seventy-four Hereford calves arrived yesterday morning for the Calf Club. They are from Kansas City and part of them are the second prize load of feeder calves at the Royal Show. Messrs. Ford and Snodgrass of Geneseo, extensive feeders, bought them for the club." - J. W. Whisenand, Henry County.

Have You an Exhibit - "Profiting by experience at the County Fair, McHenry County is maintaining a farm bureau exhibit in their office in the court house at Woodstock. The central feature is a large chart entitled, 'McHenry County Farm Bureau - Hub of Better Agriculture'. This chart done in red and black focuses your attention on the 22 projects of the bureau, each represented as a spoke in the wheel. Smaller charts show the work of cow testing association and farm loan association in the county. Why not a wall exhibit or window display for your annual meeting?" - J. D. Bilsborrow, Assistant State Leader.

It Can't be Done - The man who misses all the fun
Is he who says, "It can't be done!"
In solemn pride he stands aloof
And greets each venture with reproof.
We'd have no steam or trolley cars,
No streets lit by electric stars;
No telegraph or telephone.
We'd linger in the age of stone,
The world would sleep if things were run
By men who say, "It can't be done!" - - -
Exchange.



The Extension Messenger

A series of brief notes from the Farm Advisers, College
and Experiment Station Workers and
the State Leader's Office

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JAN 20 1923

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

December 13, 1922.

No. 50

Does It Pay To Dress Your Own Pork?

"Many persons claim that it does not. However, a comparison of the relative prices of live hogs and fresh pork lead us to believe otherwise. The following table shows such a comparison, using a 225 pound butcher hog as the basis.

Such a hog is now worth around seven and one-half cents per pound on the farm. Assuming average cutting percentages and local retail prices for fresh pork and lard, we obtain the following results:

<u>On the Farm</u>		<u>At the Butcher Shop</u>	
225 lbs. hog		28.1 lbs. ham	at 25¢ \$7.02
at 7½¢ \$16.87		21.4 " loin	30¢ 6.42
		25.9 " bacon belly	20¢ 5.18
		23.6 " shoulder	16¢ 3.78
		4.5 " Spare ribs	12¢ .54
		38.2 " rendered lard	14¢ 5.35
		11.2 " sausage	20¢ 2.24
Total	\$16.87	Total	\$30.53

In other words, figuring that the labor costs nothing (which is usually true at this season of the year) the farmer will save \$13.66 on his meat bill for every hog killed. If one wishes to figure on the basis of cured meat the saving will be still greater. Directions for the slaughter, cutting and curing of pork will follow in later issues of the Messenger." - Sleeter Bull, Meats, University of Illinois.

Annual Winter Conference - The dates for the annual winter meeting of farm advisers have been set for January 24, 25, and 26, at the University. This is during Farmers' Week at the University. Among the speakers on the program will appear, C. W. Pugsley, Ass't. Secretary of Agriculture, U.S.D.A.; Howard N. Gore, U.S. Packer and Stockyards Administration; George F. Farrell, Agriculturist, States Relations Service, U.S.D.A.; Herbert W. Mumford, Director of Extension in Illinois; Frank I. Mann and Charles A. Ewing, leading Illinois farmers. The session will open on Wednesday, January 24 at 1:30 P.M." - W. H. Smith.

"The Third Annual Utility Corn Show

will be held at the University of Illinois during Farmers' Week, January 22 to 27. Germinating seedlings will be on display with each sample. A large display of the remnants of last year's show samples, with the corn they produced, and

data as to comparative yields is an additional feature. Special effort is being made to make this show of great educational value. Corn should be in Urbana not later than January 10. Write the College of Agriculture for information regarding this show." - J. C. Hackleman.

Boys and Girls Club Work - Where Does It Lead Us? - "In my estimation the man who directs a good type of boys and girls club work in a county for a period of three to five years has a greater opportunity to build up a more permanently satisfactory type of agriculture than the man, who, as farm adviser, works only with the grown people. This does not mean, however, that the farm adviser should himself become a club leader. The value of the work is not only in helping to educate the farm boys and girls to appreciate farm life and to better understand some of the fundamental principles which underlie good farming. Thru the medium of the boys and girls, the club leader working with the farm adviser can often reach the adult members of the family in a way that is very direct.

It has been my observation that one of the best ways to introduce livestock and proper care of livestock on those farms where none is being raised is by means of the pig and calf club work. I have in mind one home represented in the Woodford County Farm Bureau where the older of two boys became interested in the pig club work two years ago and as a direct result of this interest and the work he did, they now have about 50 good pure bred Duroc Jersey hogs on the place. They had not produced much livestock. They are now building a modern hog house and the father states that the entire family has become more interested in the farm work because of the club project.

Another way in which the club work has helped with the Farm Bureau work is in interesting the entire community thru the club meetings which have been held. In one end of Woodford County where there were only eight or nine members of the Farm Bureau in three townships seven years ago, and no more interest than the number of members would indicate, there are now a fair proportion of members as compared with the rest of the county and more farm bureau interest than in most sections. The increased farm bureau interest I regard as largely due to the fact that there are two live boys' and girls' clubs in that territory. They asked for and secured the county farm bureau picnic in their territory last summer which brought 2500 people to their end of the county. They are looking forward to an increased enrollment in their club projects in 1923. I anticipate that there will be a decided improvement in farming and farm conditions in that section of the country during the next ten years and I really believe that the club work is more responsible than any other one thing for getting the movement towards better things under way." - M. L. Mosher, Woodford Co.

"Over 100 Club Members and leaders representing 25 counties participated in the fourth annual club tour at the International, December 5 to 9. Six hundred fifty others from all parts of the United States and Canada were also in attendance. The program included visits to the International, the packing houses, Chicago Board of Trade, the cold storage warehouses, and other places of interest. The trip offered club members an excellent opportunity to learn about the process of marketing of farm products after they leave the farmer's hands.

On Friday a special visit was paid the Illinois Agricultural Association offices. Mr. Howard Leonard gave a short talk regarding the relationship of the Illinois Agricultural Association to the farmer. At noon the entire Illinois delegation was banqueted at the Hamilton Club by the Illinois Relations committee of the Chicago Association of Commerce and the Illinois Agricultural Association. Captain Gorby, of the committee, and Dean Mumford of the University, were the speakers of the afternoon.

Such trips as these are felt to be one of the best prizes that a county may offer and it is hoped that at least one member from each county will be sent next year." - H. E. Wolter, Club Work, U. of I.



Village Awakes to Danger - "Mr. J. S. Nesbitt, who has been supplying milk to the village of Hanover, tested his cattle for tuberculosis after seeing a reactor cow slaughtered in the demonstration given by the farm bureau. Fourteen out of fifteen of the herd reacted to the tubercular test. The village of Hanover, which has been consuming the entire product of the herd, is experiencing a shortage of milk as well as being considerably disturbed by the awakening. The town board has become convinced that they had better pass an ordinance requiring all herds supplying milk to be tested for tuberculosis." - Burns, JoDavieess Co.

Wide Spread of Corn Borer in Four New England States- "Fourteen townships in the Merrimack Valley of New Hampshire were newly invaded this year by the European corn borer, which has been a destructive pest for the last five years along the Atlantic coast of the New England States, according to reports of the field representatives of the Bureau of Entomology of the U. S. Department of Agriculture. The corn borer is also established in Massachusetts as far west as Lancaster, Clinton, Shrewsbury, and Worcester. Its new area extends into Maine as far up the coast as Saco, and thru three townships of Rhode Island near Providence.

On October 10 the commissioner of agriculture of Massachusetts, A. W. Gilbert, conducted a party of State and Federal legislators and entomologists over the most heavily infested area with the idea of securing additional funds for the purpose of combating the corn borer in these heavily infested weed and garden districts. At the present time available funds are insufficient to stop the further spread of this pest, which attacks truck crops as well as corn, and is even destroying the beautiful fall New England flowers, such as dahlias and asters." - U. S. Dept. Agr.

"We do not want the corn borer to become established in Illinois, so it behooves us to keep a very careful watch for the first specimens that invade the State, and report any such suspicions to our State Entomologist. At its present rate of spread, it is possible for the corn borer to reach Illinois in three years normally, or it might be brought in thru the channels of commerce in much less time." - Ye Ed.

Farm Specialists

"In our little town, oh, sad to tell,
There is a merchant who doesn't know how to sell,
A sawyer who doesn't know how to saw,
A teacher who doesn't know how to teach,
A preacher who doesn't know how to preach,
A painter who can't paint very well,
A printer who doesn't know how to spell,
An odd jobs man with never a job,
A cobbler who doesn't know how to cob,
A miller who doesn't know how to mill,
A butcher who doesn't know how to kill,
A racer who doesn't know how to race,
A mason who doesn't know how to mace,
A clocksmith who cannot mend a clock,
And a doctor who doesn't know how to dock,
And since none of these are busy men,
You will find them again and yet again,
Even anon and a few times more,
'Pound the stove in some country store,
Each talking freely and thru his hat,
Doing the one thing they are expert at-
Giving advice to farmers."



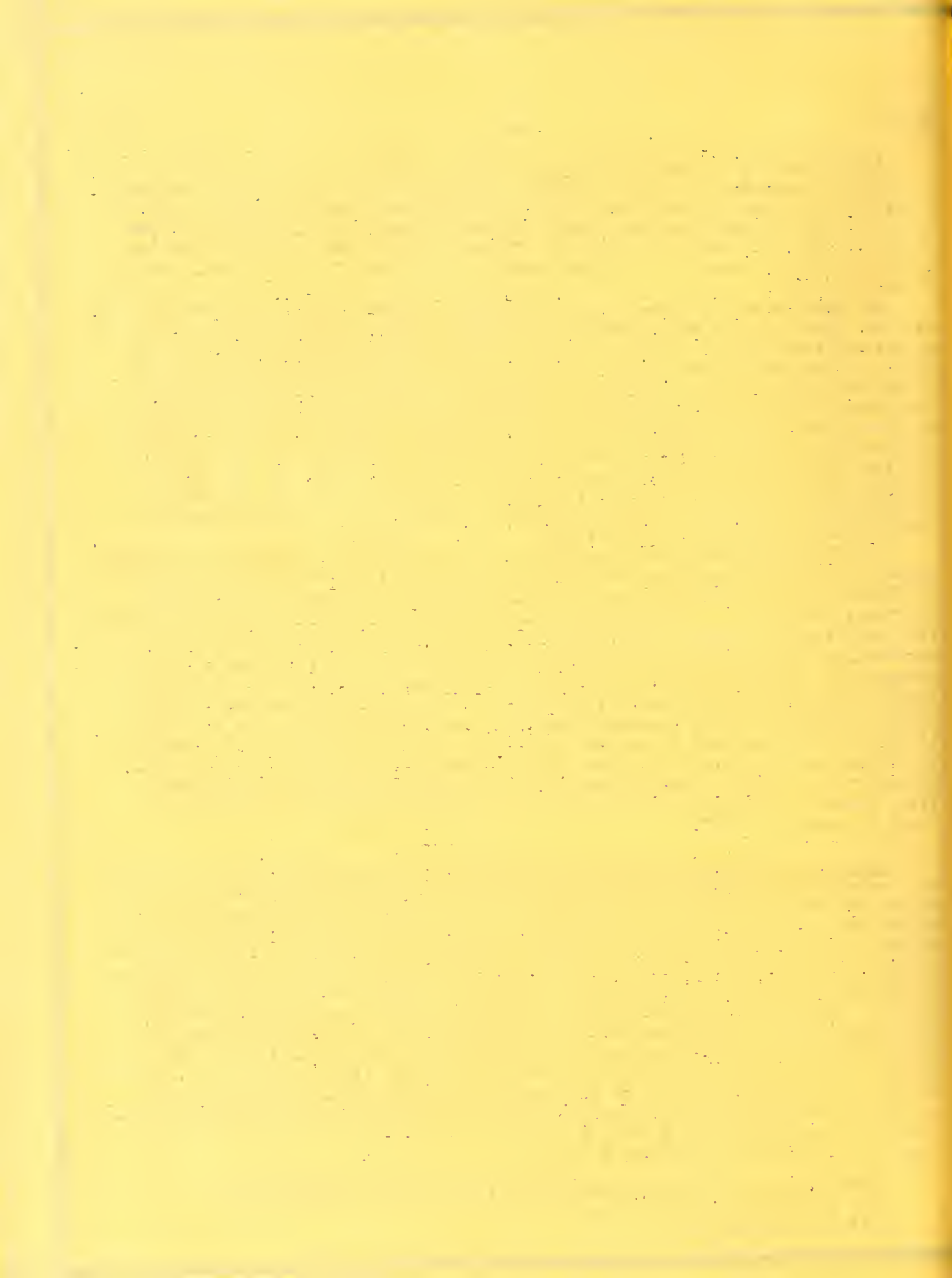
Attend the Third Annual Utility Corn Show - "Will prize winning show corn outyield the corn which was not awarded a ribbon? Is it possible for the farmer to select two types of corn, one a higher yielding type than the other, out of his own seed? Is there any correlation between types of corn, disease resistance, and yield of corn in the field? These and many other equally important questions will be asked at the Third Annual Utility Corn Show at Urbana, January 22 to 27, 1923.

In addition to the large number of samples of corn on display in the various classes, there will be an extensive educational exhibit dealing with the corn questions listed above. In this exhibit will be graphically displayed the results of many experiments conducted at the University of Illinois in the study of the root rots of corn. Remnants of samples of show corn from the Utility Corn Show of last year, together with data as to their production and actual samples of corn they produced, will make up another feature of the show. These samples and many others were tested out in different sections of the state and the data thus secured will be of great value to the farmer who is interested in bettering his seed corn and in finding a type of seed which is exhibiting resistance to the rots of corn and therefore producing more sound marketable corn per acre than is some other kind.

The chief feature of the corn show will be the display on Wednesday, January 24, of the growing seedlings from each of the respective ten-ear lots of corn. The Utility Score Card which will be used in placing this corn, requires such a germination test. For the purposes of this score, 100 kernels will be removed from each ten-ear samples and that portion of the score dealing with vigor of germination and disease condition will be determined by the performance on the germinator. No farmer who is interested in studying his seed corn and in ascertaining what other farmers are finding out as well as getting the latest experimental evidence, on this important question, can afford to miss this corn show if it is at all possible to attend. In order to get the most out of the show, he should have a sample of his own there to study and compare. All corn should be in Urbana not later than January 10. For further information and premium list, address, College of Agriculture, Urbana, Illinois." - J. C. Hackleman, Crops Division, U. of I.

ALL Machinery should be properly repaired and fully equipped ready for field work some time in advance of the season that it is to be used. Soon after the end of the season's work with any machine it is a good plan to make a list of all needed repairs and adjustments for each particular machine and order the repair reports so as to have them on hand when the opportunity arises to repair the machines. The machine represents capital invested and it should be housed properly and not left in some out of the way place for wooden parts to rot and metal parts to rust, which, even for short periods may cause more deterioration than the season's use. Breakdowns are most frequent during the busy season and much valuable time may be lost in going to a shop for repairs or waiting for new parts to arrive. This results in a waste of time and often in a loss of a part of the crop. In order to secure the greatest efficiency, all implements and machinery should be properly housed when not in actual service, and promptly repaired, so as to be in good working condition when required for use." - J. H. Hedgcock, Harvesting Machinery, U. of I.

City folks, as a rule, do not realize the expense of farming, but many farmers fail to appreciate the expense of living in the town. Let's get acquainted.



The Home Slaughter of Pork - "It is comparatively easy to dress a hog on the farm altho many farmers feel that it is a task for a skilled butcher. However, after a little practice and with a small amount of equipment it is not much more difficult than dressing a chicken or turkey. On most farms it will pay to butcher at least twice during the winter rather than doing it all at once. This will supply fresh meat during a large part of the winter while the hams, bacon and other cured cuts from the first butchering may be given a mild, more palatable cure as there will be little danger of them spoiling if they are kept in a cool place. A stronger cure should be given to meat from later butchering if it is to be kept during warm weather as it may spoil otherwise. Obviously the stronger the cure used, the drier, saltier, and less palatable will the meat be. It is now time for the first butchering. Another may take place in February or March.

Select a smooth barrow or open gilt which is not too fat unless considerable lard is desired. Hogs weighing 200 to 225 pounds are desirable for home consumption as they will supply considerable lard and the meat will not be too fat. The hog may be killed with a sledge, axe, or rifle-shot but it is preferable when one has had experience in sticking to have some one hold the hog on his back while another sticks him without previous stunning as the hog will bleed better. In sticking, insert an 8-inch knife, edge down into the middle line of the throat, three inches in front of the breast bone. Run the knife in and down until the lower edge of the breast bone is located. Then push it slightly under the bone and cut toward the head, severing the veins and arteries. Avoid getting the knife out of the middle line, as it will probably stick the shoulder and necessitate considerable loss by trimming.

The best method of scalding, especially when several hogs are to be butchered is to set a small galvanized watering tank upon bricks or over a shallow pit so that a fire may be built under it and the water heated directly. The water should not be too hot. Dip your hand into it three times in rapid succession. If the third time it is uncomfortably hot, the water is the correct temperature. A scraping platform is set alongside the tank and the hog is rolled off the platform into the water and onto a rope, the ends of which are fastened about three feet apart to the platform. The hog should be rolled about and removed from time to time to see if the hair comes off readily. Clean the feet and head first. After the hair is removed as thoroly as possible with a hog scraper, hang the hog upon a gambrel stick inserted thru the tendons of the hind pasterns just so the head clears the ground. Pour hot water over the carcass and halve it with a sharp knife. Then pour a bucket of cold water over it.

In dressing, begin between the hams and cut down to the pelvic bone. Then split down the middle of the belly as far as the breast bone, taking care not to cut too deeply and into the guts. Next cut thru the exact center of the pelvic bone, being careful not to cut the bung just beneath. Pull down and out on the penis or uterus while cutting around the bung. Then the intestines, liver and stomach may be removed without much difficulty. Next split the breast bone by inserting the knife a little to one side of the center and cutting downward. Remove the heart, lungs, gullet and wind pipe. Examine the internal organs and the glands of the neck. If any of them contains little pockets of pus it is an indication of tuberculosis and the carcass should be discarded for human food. It may be thoroly cooked and fed to the hogs or poultry. Hog cholera is distinguished most easily in the live animal. In the carcass cholera is indicated by very small blue spots on the skin, purple neck glands, liver-colored lungs and many small blood spots the size of a pin head in various parts of the body, especially in the intestines. Such carcasses and their offal should be burned immediately.

Tear loose the leaf fat from the sides of the carcass while it is still warm. Wash thoroly the inside of the carcass with cold water and allow the carcass to cool over night. Do not let it freeze however, until the animal heat has gotten out or the meat will spoil around the bones." - Slaughter Bull, U. of I.



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UNIVERSITY OF ILLINOIS

JAN 8 1923

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. V

December 27, 1922.

No. 52



NEW YEAR'S GREETINGS

The Editor has requested three specialists to contribute articles on planning - "The Organization of the Farm", "The Crop Rotation", and "The Livestock Production". This series follows -

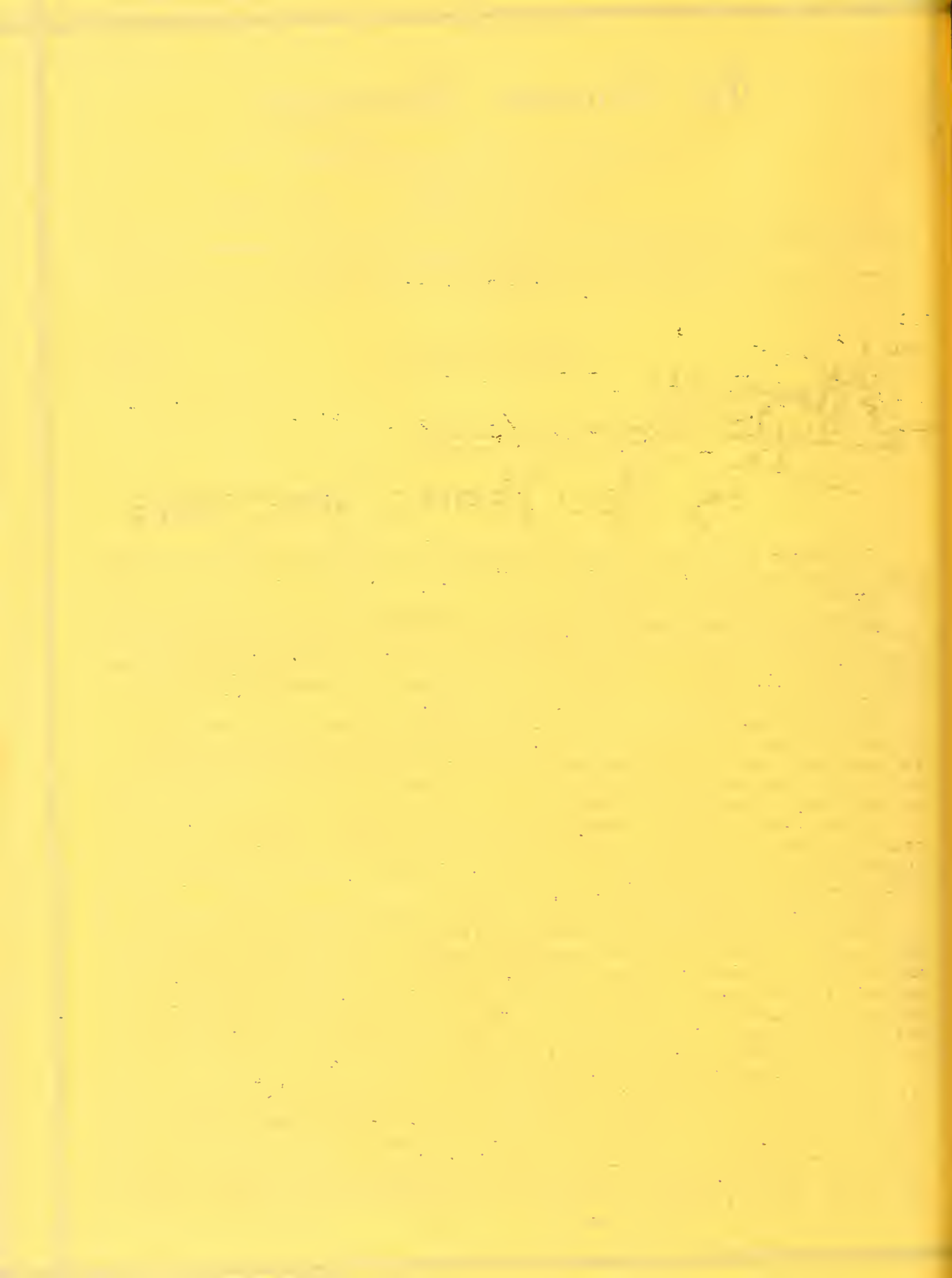
Planning the Organization of the Farm - "Different types of farming are the result of attempts on the part of individual farmers to adopt systems of production which will give the largest net profit. With this object in mind, good farm organization takes into account market demand, a permanent agriculture, and economy of operation, as well as gross income.

The soil, including in a broad way, rainfall, growing season, extremes of temperature and other factors determining the soils productivity, constitutes the starting point in farm organization. The variations in the fertility of soil on the same farm and the proportion of tillable land make the organization of each farm an individual problem.

An approved rotation of crops for a farm will include crops which in themselves are not necessarily the most profitable but which in combination with others provide for as wide margin of profit as possible between the cost of production and the selling price.

The livestock production for the average cornbelt farm can well be based, in the main, upon the crops, crop products, pasture to be marketed, the available labor supply, credit facilities, and market demands. Any good crop rotation in the corn belt produces at least one-half its weight in unsalable by-products, or in products which can be sold to best advantage in the form of livestock, or livestock products. The farm plan must take into account the labor requirements and available family or hired labor, and a field and building arrangement that provides for efficient operation of the farm.

The basic principles in farm organization indicated above provides for diversity of production. Diversified farming when not carried to the extreme is preferred because: (1) It provides a flexible system of farming that can best meet changing market demands. (2) It provides an insurance in years when some products prove unprofitable. (3) It utilizes man and horse labor, and equipment to best advantage. (4) It furnishes the best means of utilizing crops and crop residues. (5) It makes for a permanent agriculture. (6) It helps insure maximum profits."- H. C. M. Case, Dept. Farm Org. and Mgt., U. of I.



"Efficient Crop rotations are a recognized necessity if the Illinois farmer is to continue indefinitely on his farm. The fact that the yield of corn on adjacent fields at the University of Illinois could be changed from an average of 27.3 bushels to 55.6 bushels by rotation alone, without treatment, and to 83.3 bushels, by rotation and proper soil treatment, is sufficient proof that adapted rotations accompanied by proper soil treatment can no longer be neglected.

There are at least three good reasons aside from the economics of the question, which commend rotations to the farmer. First, our average yields are sinking to levels which make farm operations hazardous; second, the plant diseases are becoming worse each year on lands not rotated; third, insect pests always follow and take the heaviest toll where the single crop system of farming is followed.

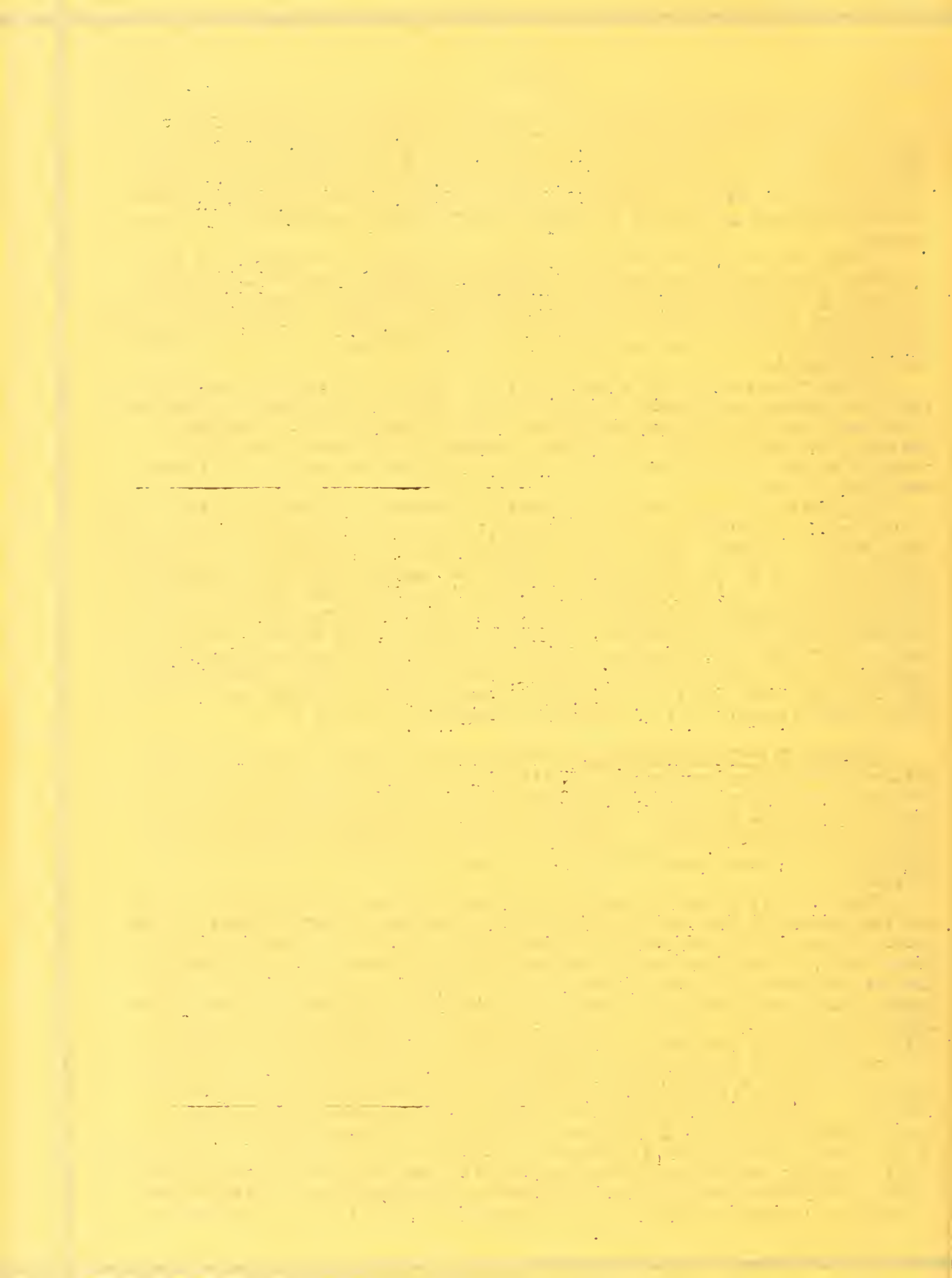
In the establishment of a successful rotation, the following fundamental facts must always be considered and observed: Choose as succeeding crops those which use a widely different proportion of plant food materials; follow a shallow-rooted with a deep-rooted crop; change type of crop as radically as possible so as to give least possible opportunity for the increase of fungus and insect pests.

The choice of crops must be governed by a number of important factors. In a state such as Illinois, corn must obviously serve as the basis for practically every rotation scheme. Wheat thruout most of the state should also be considered as essential. Oats and barley occupy their fair portion thruout the northern half of the state and in the northwest central section, where livestock farming is generally practiced. Legumes are essential and should occupy as large a portion of the farm as possible. Special attention should be given to alfalfa, sweet clover, red clover and soybeans. A few rotations illustrating these principles are: (1) Corn, soybeans, wheat, clover; (2) Corn, Oats, Wheat Clover; (3) Corn, Soybeans, Wheat (sweet clover); and (4) Corn, soybeans, wheat, clover, wheat (sweet clover)." - J. C. Hackleman, Crops Dept., U. of I.

Planning Live Stock Production - "Plans for live stock production should follow established procedures and doubtful or untried practices should be left to the investigators or men with plenty of means. It is possible in most communities to locate successful live stock farmers and their practices should be used as patterns for others. In most cases these practices are in line with recommendations based upon experimental evidence and years of successful experience.

Successful live stock production includes the careful selection of stock for the purpose in view both in regard to the kind and number of animals. Live stock of the proper type and quality are likely to prove the most profitable. For example, it has been shown by experiment at the University of Illinois that the better grades of feeder cattle make more rapid and larger gains than the poorer grades and that when fattened, they produce a relatively larger percentage of saleable meat. In case of breeding stock, careful selection should be made to insure the production of animals of the type demanded by the trade.

The number of animals should be governed by such factors as amount of home grown feed produced, experience in handling stock and the amount of equipment available. Sufficient live stock to consume the feeds grown upon the farm helps to improve a system of farming and is usually a safe number to advise. On this basis the operation is closely associated with the general farming plan while a greater number means more specialization and requires greater managerial ability. Expensive and elaborate equipment is not necessary. Buildings so arranged to insure convenience to the owner and comfort to the animals are all



that is required. In many instances farmers are successful in their livestock operations with a small outlay for equipment by handling their stock under natural conditions in the open during most of the year." - W. H. Smith, State Leader.

Keep a Farm Account in 1923 - "At this time of year merchants everywhere are getting ready 'to invoice'. Once each season they find it necessary to 'take stock', and see where they stand financially. What about the farmer? Most Illinois farmers have as large an investment as the average merchant and many as large as the county banks. How can the farmer do business without knowing his financial standing?

The simple farm account book gives this information. The inventory can be put in, in about two hours. After that, farmers tell us, 15 minutes a week is all the time required to keep the entries up to date. This record will show the farm's main sources of income. Using this information the profitable enterprises can be studied and made more efficient. This will result in more economical production and the money saved in this way will buy just as much as the dollar received from the sale of more products. Best of all, the money saved on cost of production does not come out of the consumer's pocket.

The account points out the leaks in the farm business. By knowing where mistakes have been made, it is easier to avoid losses in the next year's operations. If you are fortunate enough to have to make out an income tax return of your farming business it will give you the information you need. It will show you whether or not the cash you have in the bank is profit, or just interest received for the use of capital invested in the farm business.

It shows how efficient you are as a farm operator, for your success as a manager, depends to a large extent, upon the margin you keep between the cost of production and the selling price of your products. It will show how efficiently your labor is handled, by using such measures as crop acres worked per man and per horse, and how much you can make an acre produce. It tells you whether your live stock is productive or whether your feed and labor are wasted on stock that does not return a fair rate on the investment.

It gives information necessary to analyze your farm business and points out the need of 'balance' in your farming system, which will tend to make the farm as a unit, more profitable.

Let your first New Year's Resolution be the resolve to keep a farm account in 1923." - R. L. Donovan, Farm Organization and Management Dept., U. of I.

Window Display - "In the West farm bureau window we have an exhibit featuring the economical feeding of hens for winter egg production. This exhibit was prompted by the fact that most of our farmers who are striving to get their hens to lay eggs in winter are feeding commercial feeds costing not less than \$3.50 per cwt. One farmer feeding \$3.50 feed, was advised to feed equal parts by weight of ground corn, ground oats, wheat middlings, wheat bran and tankage dry in a mash feeder. He has done this for two weeks and reports that his egg supply is increasing. The ration recommended costs him \$1.68 per cwt. The display consists of a small chicken house, a small self-feeder, eight artificial hens and one rooster, and samples of the ration as recommended. The window is appropriately decorated with evergreen, etc. in keeping with the season. The East window displays an exhibit on cooperative marketing of livestock. It contains a miniature stock yards of five pens and sheds, with artificial cattle, hogs and sheep in the pens, a small toy truck with farmer unloading hogs, and a railroad track with a stock train consisting of engine, tender and five stock cars. These windows are attracting a lot of attention and each is teaching a valuable lesson." - A. A. Olsen, Warren County.

The Extension Messenger

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UNIVERSITY OF ILLINOIS
JAN 4 1923

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

January 3, 1923.

No. 1

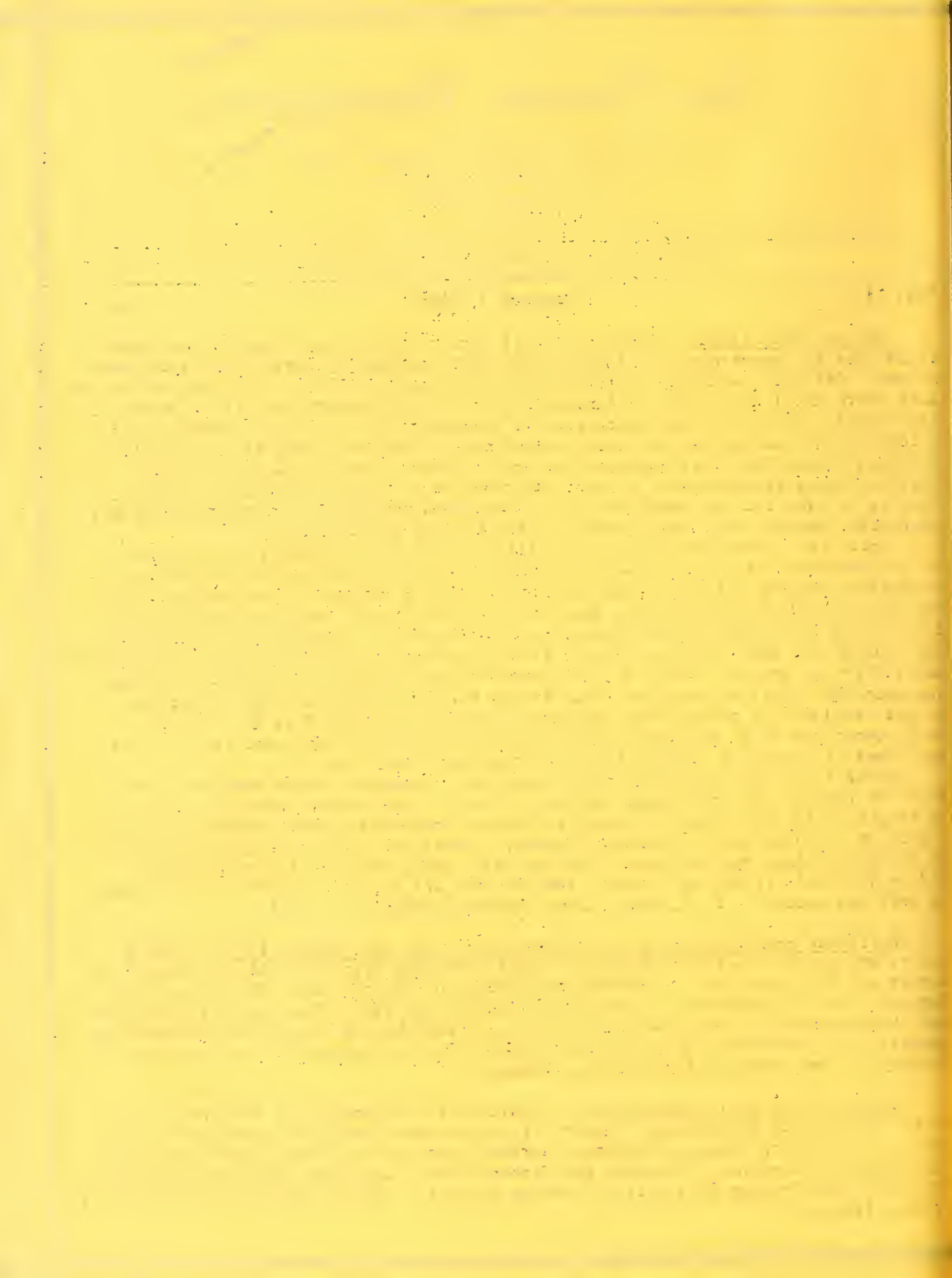
Use of Stalk Fields - "Many corn belt farmers rely almost entirely on stalk fields for the maintenance of their stock cattle and horses during the early winter months. Often the animals are turned into the stalks the latter part of October and left there until the middle of January or the 1st of February with little or no other feed. Obviously such a practice is detrimental to the proper growth and development of young cattle and horses which need a much more nutritious and better balanced ration than that furnished by dry or frozen, rain-leached corn stalks. Neither should pregnant cows or mares be required to exist solely upon stalk fields. Females so wintered are likely to be in a weakened condition when spring comes and therefore, suffer grave consequences at the time of parturition.

While the efforts of farmers to utilize their stalk fields with live stock are to be commended, it should be kept clearly in mind that corn stalks are neither a nutritious, highly palatable, nor well balanced feed material. Consequently, they should be supplemented with more digestible feeding stuffs that are high in protein like clover or alfalfa hay or linseed or cottonseed meal. During good weather when the animals are not stabled at night, legume hay can be hauled directly to the field and fed on the ground. About 4 to 10 pounds of hay should be fed per head depending upon the length of time the stalk fields have been pastured. If clover hay is not available, a nitrogenous concentrate should be supplied at the rate of 1 to 2 pounds per head. As soon as the field is stripped of corn, some grain or silage should be supplied along with the nitrogenous concentrate.

Stalk fields are of considerable value as an exercise ground long after they cease to furnish any appreciable amount of feed. Stock turned into such fields on bright, cold days when the ground is frozen, apparently enjoy wandering about in search of a hidden husk containing perhaps, a small nubbin or of a stray mouthful of bluegrass along the headlands. On such days shock corn or clover hay can be fed on the stalk fields as a change from the dry lot that is used when the ground is soft and muddy." - R. R. Snapp, Dept. Animal Husbandry, U. of I.

Railroads grant reduced rates for Farmers' Week, Jan. 22-26, 1923 - Reduced rates, one and one-half fare (minimum \$1.00) for round trip from all stations in Illinois and St. Louis, Mo., to Urbana and Champaign Farmers' Week. Tickets on sale January 20 to 27 inclusive; return limit January 29, 1923. Farm advisers will also have the advantage of the above rates as final plans have been made for holding the annual winter conference during Farmers' Week. The meeting will begin Wednesday, January 24, and continue thru Friday, January 26.

Livestock and Dairy Conference- In addition to the program of Farmers' Week there will be held on Saturday, January 27, a Livestock and Dairy Conference. Unusually interesting programs have been arranged for these meetings which should insure a large attendance. Programs for Farmers' Week, Livestock and Dairy Conference, and Grain Show Premium List will be sent on request. Address College of Agriculture, Urbana, Illinois.



The Use of Potassium on the Prairie Soils of Southern Illinois - "Applications of potash salts to the tight clay prairie soils of southern Illinois have often given marked increases in the yields of corn. According to the chemical analysis, these soils contain about 25,000 pounds of potassium in the plowed soil of an acre, which is sufficient to produce over 2600 fifty-bushel crops of corn if the stover is returned to the soil. The better yields of corn secured with potash salts, under these conditions have been interpreted by some as meaning that the chemical analyses of soils have little or no significance, and further, that the application of potash salts to soils of this character should be a regular fertilizer practice. There is, however, another question that should be asked before these conclusions are accepted, and that is whether or not the large amounts of potassium naturally present in these soils might not be made available to farm crops by good methods of farming. If such is possible, then the returns from purchased potash salts should become less and less as these systems of good farming become well established. Fortunately the field experiments of the University on this type of soil have been so planned that this question can now at least be partially answered. There the potash salts have been applied, crops have been grown in rotation with legumes and the soil has been constantly improved by additions of organic matter in either the form of green manures, farm manure, or crop residues or combinations of these. A study of the increased yields of corn due to the use of potash salts by rotations rather than long time averages should, therefore, be of interest in this connection. Such data from some of the Soil Experiment Fields are presented in the accompanying table.

Increases of Corn in Bushels Due to Use of Potash Salts
Gray Silt Loam on Tight Clay

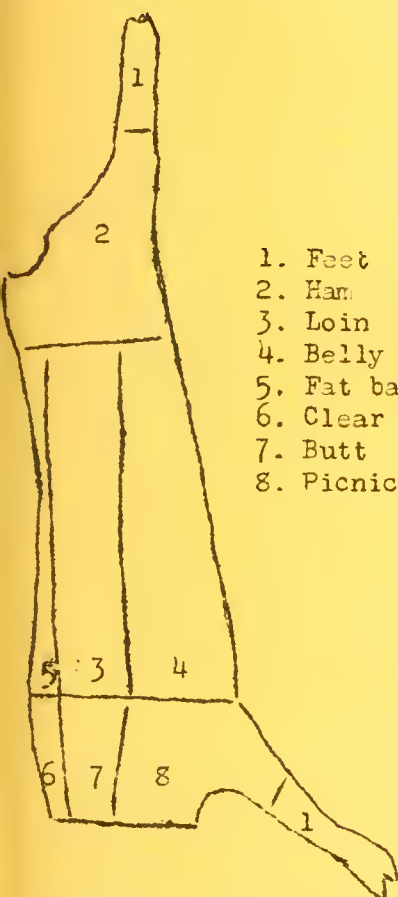
Rotation	Cutler Field	Odin Field	Average of four newer fields*
First	14.0	18.9	5.6
Second	12.8	17.2	6.0
Third	8.0	9.8	- -
Fourth	2.5	8.0	- -
Fifth	1.0	- -	- -

* Ewing, Toledo, Oblong, and Newton Fields.

At DuBois experiments on this type of soil have been carried on since 1902. Rotation averages cannot be applied so easily to the results obtained from this field since only one crop is grown each year. By converting the crop yields to money values and dividing the results into two ten-year periods, comparisons similar to those above are obtained. Where no organic matter was returned to the soil the crop increases for potash salts the first period were worth \$5.58 and for the second period \$4.15 an acre. Where organic matter was returned to the soil the increases obtained were worth in a similar manner \$4.45 and \$2.78 respectively.

These and similar data from other fields indicate in general that the potassium problem as related to the prairie soils of southern Illinois is one of liberation rather than addition." - F. C. Fauer, Dept. of Agronomy, U. of I.

It Speaks for Itself - "One of our shipping associations has decided to bond its manager. We are quite proud of this particular association because of the way it has grown from an initial membership of five to a present membership of 227." - F. M. Bane, Henderson Co.



1. Feet
2. Ham
3. Loin
4. Belly
5. Fat back
6. Clear plate
7. Butt
8. Picnic

"Dress Your Own Pork" - After the hog carcass has chilled thoroly for 24 to 48 hours, split it down the center of the back with a meat saw. Many farmers split the hog on each side of the back bone, with a cleaver or ax. This method spoils the best cut in the carcass - the loin. The head is cut off about a half inch behind the ear or at the atlas joint. This may be done before or after splitting. Lay the side skin-side down upon a table and cut off the feet just above the knee and hock. Make a square cut between the third and fourth rib to cuttoff the shoulder. The layer of fat on top, called the 'clear plate' may be cut off and used for lard. The neck bones and ribs are then taken out. The upper part or the shoulder or 'butt' may be cut off squarely just above the joint of the shoulder blade and cooked fresh as a roast or boned and used for sausage. The lower part or 'picnic' may be boned for sausage or cured. The entire shoulder may be cured without division.

Cut off the ham squarely about two fingers in front of the pelvic or 'H-bone'. Then trim it smoothly so there are no loose, thin, ragged shreds of meat on it. Also trim off the tail and flank. If the ham is very fat, trim off some of it. However, be sure to leave about one half inch of fat over the lean. Hams are

usually cured. Strip out the leaf fat for lard. Cut the loin from the belly by sawing through the ribs parallel to the back bone, just below the large muscle of the back. Then remove the 'fat back' from the loin with a sharp knife. The fat back is used for lard. The loin may be used for roasts or cut up into chops. It may be allowed to freeze and then used as needed. It will keep indefinitely while frozen.

The spare ribs are cut from the belly and used fresh. The belly is then trimmed so that all corners are square, all edges are straight, and all ragged meat is removed. If the carcass is a female, trim off enough meat from the lower edge to remove the nipples. The front or brisket end and the upper part of the belly piece are not so good as the lower flank and side portions. Hence they are often cut off and used for sausage and lard. The trimmed bellies are cured for bacon. All fat trimmings should be used for lard and all lean trimmings for sausage. Do not use any bloody trimmings." - Sleeter Bull, Meats, U. of I.

Grange Committees Most Active - "In drawing the project map for the annual report, one very outstanding feature of the completed map was the intensive grouping of farm bureau projects around the three oldest Grange Community organizations. These community organizations establish a farm bureau form of contact and act as a distributing center for farm bureau work. We have expended more energy on establishing projects in unorganized communities, but find the response less than in the organized community." - C. W. Simpson, Gallatin Co.

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Vol. VI

UNIVERSITY OF ILLINOIS-URBANA, ILLINOIS

January 10, 1923

No. 2

BIG FARMERS' WEEK

AT THE UNIVERSITY

COME

Without doubt the greatest opportunity ever extended to Illinois farmers is being arranged in the "Farmers' Week" at the College of Agriculture, University of Illinois, Urbana, January 22-26, 1923. The old "Corn Growers' and Stockmen's Convention" has been changed to "Farmers' Week" - a five-day session chock full of the very best agricultural teaching of today. (An additional day will be devoted to special livestock and dairy conferences.) Come and bring your neighbors with you. You can set aside the farm duties - just for a week. You will learn enough to pay many times over for the little trouble and expense. This is the greatest opportunity Illinois farmers ever had.

"Forward Farm Bureau" is a slogan we farmers meet everywhere now-a-days. Let's keep pace with our organizations. Let's make the most of our opportunities to learn about the latest progress in scientific as well as practical agriculture. The University is setting aside one whole week just for farmers, and the agricultural faculty is preparing to give us the heart of a whole course in agriculture during that time.

A week of the very best in lectures, class teaching, demonstrations and personal help. The program is a most excellent one. The week begins with a combined session Monday afternoon January 22 (Monday morning is reserved for registration and inspection of campus, buildings and equipment). Tuesday the meetings are divided for two general groups - plant and animal sections. Wednesday, Thursday, and Friday, the groups are further divided so one can get closer to the problems in any particular branch of agriculture such as soils, crops, horticulture, horses, cattle, hogs, farm mechanics, etc. Between 40 and 50 of the best men on the agricultural faculty will teach these sections. Friday afternoon

the groups come together again to hear talks by such men as L. S. Tenney, Assistant Chief, Bureau Agricultural Economics, Washington, D.C., Hon. Howard M. Gore, Packers and Stock Yards Administration, Washington, D.C., Hon. C. W. Pugsley, Ass't. Secy. of Agriculture, Washington, D. C., and Friday evening rounds the week out with a fine "Good Fellowship" Banquet with Mr. J. V. Stevenson of Streator, Illinois, as Toastmaster.

Did you ever see such a program! Of course, you never have, for there has never before been an Illinois short-course arranged with so much care and with such talent. All with no cost to you save board and travel. You cannot afford to stay home, for your University is doing this for you.

Reduced Railroad Rates - One and one-half fare (minimum \$1.00) for round trip from all stations in Illinois and from St. Louis, Mo., to Urbana and Champaign, Farmers' Week. Tickets on sale January 20-27, inclusive: return limit January 29, 1923.

FEATURES OF FARMERS' WEEK

A Fine Utility Corn Show will be in progress all week. Premiums are listed for 15 classes in corn; also 15 classes in other seed grains. The classes are arranged in four sections, Northern Illinois, Central Illinois, Southern Illinois, and Open to the State. Besides there will be six sweepstakes premiums and three grand sweepstakes. The Utility score card will be used in judging all samples of corn. All ten-ear samples of corn will be tested on the germinator and the growing seedlings will be on display with each sample. Corn should be in Urbana not later than January 10.

A Strong Live Stock Conference has been called for Saturday by the committee which was appointed by President Kinley to recommend an agricultural policy. Livestock production is destined to take a prominent place in the future agricultural practices of the state. An opportunity is presented in this conference of Saturday, January 27, for livestock men to participate in the discussion and contribute toward the development of an agricultural policy for Illinois. Some of the men who will speak are W. S. Corsa, presiding, C. L. McHarry, E. T. Robbins, E. C. M. Case, L. H. D. Weld, E. N. Wentworth, J. L. Edmonds, L. E. Card, G. L. Noble, Dr. Robert Graham, G. C. Johnstone, W. G. Kammlade, M. E. Finley, J. G. Imboden, H. P. Rusk, and H. E. Parke. A similarly attractive dairy conference is being arranged.

Farm Building and Household Equipment Show - It is a conservative estimate that the buildings on the Illinois farms are costing \$100,000,000.00 a year. Poorly designed, poorly arranged and poorly equipped buildings are also costing the farmers a large amount in labor that could be saved by giving more thought to this problem. A special exhibit of farm buildings and home equipment has been arranged by the Farm Mechanics Department for the benefit of all visiting farmers during Farmers' Week. Farm building models, plans, and building materials have been provided. As a labor savor on the farm proper home equipment should be given careful consideration. Running water and modern laundry equipment will save as much time as any class of equipment that can now be procured for the average farm. Types of water, lighting and heating systems will be exhibited, also types of laundry equipment.

Special Big Exhibit Department of Agriculture - By special dispensation, arrangements have been made for the showing at Urbana, during Farmers' Week, of the very latest extensive exhibit owned by the U. S. Department of Agriculture. This is an excellent showing thru graphic and photographic methods, of the latest scientific facts in plant and animal disease control, feeding rations and methods, marketing systems, etc. This exhibit alone is worth the trip.

Expenses - There will be no tuition or registration fee for this course. The only expenses will be board and travel and even travel will be cut to one and one-half fare round trip by special grant of the railroad passenger associations.

Farm Bureaus should make every effort to get farmers to attend Farmers' Week this year. The show is a leader - The University guarantees that - Its Up to Us to Deliver the Audience. Will you send your share?

Farm Advisers will be here at least three days during Farmers' Week, attending the annual Advisers' Meeting which has been arranged to take advantage of several of the leading features of Farmers' Week.

Preparing Corn for Show - "Corn for show according to the utility standard is no different from the very best seed corn. Therefore, the best source of show corn is the seed that has been field selected from apparently healthy stalks. If corn of this type is not available, a good show sample may be taken from the crib, but, of course, in this case the health and vigor of the parent plant is unknown. Since a germination test counts 35 percent, the natural health and vigor of the stalk producing the ear is an important thing to know. The exhibitor, however, is permitted to remove 5 kernels from each ear for examination and germination. These kernels should be removed progressing spirally from the butt to the tip of the ear.

Ears of medium smooth indentation, having kernels of good depth, thickness and width and of horny composition are considered best. The luster and general brightness of the sample is noted particularly in judging utility corn. Any discoloration or stringy uneven break at the shank is objectionable. It is important that the shanks have sufficient size and strength to hold the ear erect until it is mature, so small shank attachments are discriminated against. It is not particularly important that the ear tips be completely filled, but they should not be bleached in color, or too much pointed in shape. The minimum length for show corn in the central and southern sections of Illinois is $9\frac{1}{2}$ inches, and for Northern Illinois $8\frac{1}{2}$ inches. One cannot take too much pains in selecting ears that are uniform in color, type, shape, and size. The judge always looks a second time at a carefully selected uniform lot of corn." - George H. Dungan, Associate Crop Production, U. of I.

"The Clothing Club Manual (Illinois Circular #264) the new 88 page circular by Mary C. Whitlock and Harriet M. Phillips is now ready for distribution. This circular has been prepared especially for members of girls' clothing clubs and gives a discussion of all the construction problems taken up in this work. It forms a sequel to Illinois Circular #263 'The Organization and Direction of Clothing Clubs' which is used by leaders. Due to the large size and high cost of printing, the new circular will be sold at 15 cents per copy." - Harriet M. Phillips, Club Work.

Until you put on a smile, you are not properly dressed.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

January 17, 1923.

No. 3

We Need More Good Farm Horses

"Farm communities should breed their own replacement stock with a few good ones to sell. Secretary of Agriculture Wallace lists over-production of many farm crops first among six factors in causing the abnormal relationship of farm prices to prices of other goods. The diverting of the necessary feed, grain, rough-

age, and pasture to grow horses and keep work horses will prevent the dumping of such large quantities of grain on the market. The reduction of surplus thus brought about will do much to prevent ruinous prices for farm products. Selling horse feed and buying other fuel to do the horses' work, not only involves the paying of two freight charges, but the crop surplus (which would be created if many farmers were to sell coarse grains) might so reduce the market price as to return to the farmer less cash for the total grain crop than he would have received for the rest left, after providing the grain for his work stock.

Since the use of horses is sound economy and since a large proportion of our work horses are old, unsound, and never were of a desirable type, it would seem that now is a logical time to increase the production of the right kind. The prices of really good ones are not so low when compared with present grain prices. If only desirable mares and stallions are mated there need be no fear of over-production. Attention must be paid to individual merit. Some communities have given their horses so many crosses of inferior, unsound, draft stallions, stallions almost entirely lacking in the features which make a work horse useful that it is no wonder farmers are turning to mules and tractors. A good test of a work horse is his ability to stand hard work during hot weather." - J. L. Edmonds, Professor of Horse Husbandry, U. of I.

"Shire Horses Popular in Champaign County - One of the factors that deserves a great deal of credit for maintaining the county Shire interests is the Champaign County Shire Breeders' Association, which was organized April 19, 1919, for the purpose of stimulating an increased interest in the production of draft horses by the use of good stallions and mares, to exhibit as an association at county and state fairs, and to advertise collectively for the purpose of bringing buyers to the county. The exhibitions of this association deserve much credit. The smallest number ever exhibited at any show was five, and as many as twenty-one animals have comprised the exhibit. The winners have been beyond any expectations; for the past three years over 300 ribbons, cups, and trophies have been won, and prize money to the extent of \$5,500.00." - J. E. Johnson, Ass't. Adviser, Champaign Co.

"The Richland County Farm Bureau boasts of the fact that its president has been absent from only one of the 73 regular and special meetings of the executive committee since the formation of the organization almost five years ago." - J. C. Spitler, Ass't. State Leader.

Young Men's Country Club - "The value of boys and girls organizations can hardly be over estimated. Friday, December 8, the county executive committee of the Young Men's Country Club were guests of the Soil and Crop Association at dinner. This organization has been in existence for ten years. The first president of the Y. M. C. C. was at this dinner as were the second and third presidents. The fourth president is dead and the fifth president was killed in the army. The sixth president was at the dinner. The new president, Mr. Maurice Kimmelshue, a graduate of the University of Illinois, was interested in the Y. M. C. C. before going to the University. It was interesting to hear the review of these different presidents of the work of the Y. M. C. C. for the past nine years. Of the original number who attended the Short Course, February 1913 (there were only 28) twenty-six of them are members of the local farm bureau. In the membership of 1915 there were 344 and of that number 302 are members of the local farm bureau. An interesting thing to note is that they are the best workers in the farm bureau, always loyal and in any community where they reside we have no trouble to find that spirit of cooperation among them. In one community which is very poor because of the type of soil, the former president of the Y. M. C. C. is head of the live stock shippers' association, was manager of the Farmers' Elevator and a general leader for whatever is right for that community.

The boys are now starting on their Tenth Short Course and are planning Father and Son Banquets over the county in the different townships. The biggest thing that has ever been done in the county was when the local farm bureau started its work among the young men and women of the county. The way the boys go about this work in a businesslike way and a wholesome spirit of cooperation and the stamina with which they resist the evils common to the farm bureau, does anybody's soul good who work with them." - John S. Collier, Kankakee County.

Club Work is Important - "Club Work deserves an important place in a program of farm bureau work because it makes a point of contact with a large number of farmers who would not otherwise be reached. Many farmers who have not been interested in the farm bureau and better live stock and crops for themselves, become enthusiastic over these projects when carried on by their children and are soon putting into practice the better methods that are brought out by the club work.

Not only does the club work lead the parents of the club members into better agricultural practices but it furnishes demonstration material for a large number of farmers. This is especially true in Bureau county with the Baby Beef and Corn Clubs. There has been a decided increase in the feeding of baby beeves in the county during the three years we have carried on this project. The greater part of this is a direct result of the exhibition of the club calves at the County Fair. The forty club plots of disease free corn in different parts of the county have been equally efficient as demonstration material for large groups of farmers. Many other projects could be made to serve the same purpose.

Perhaps the greatest result of club work being carried on now will show up in the future as these club members become the farmers of the future who will determine the agricultural policies of the county, state and nation. With the continued drift of people from the farms to the city, the question of who is to stay on the farm becomes very important. If the brighter and more energetic of our young men and women leave the farm for the city there is grave danger of American agriculture degrading to the place where we will have a peasantry such as exists in Europe. On the other hand if we can keep the best of our young people on the farms it will guarantee a bright future for agriculture and the nation." - W. W. Wilson, Bureau County.

"Pig Losses - According to combined statistics from Illinois 1918; Warren County, Illinois, 1921; Henry County, Iowa, 1921; La Salle County, 1921 and 1922 and Minnesota, 1922, the following losses of pigs occurred:

Of all pigs farrowed 70.6% of the pigs were saved; 8.10 pigs were farrowed per sow and 5.72 pigs weaned per sow. Causes of loss and percentages - Farrowed weak 14.5 (or dead 21.1), 35.6%; Overlaid 24.3%; Chilled 9.2%; Scours 5.4%; Aborted 3.9%; Eaten 3.7%; Sore mouth 2.7%; Thumps 1.9%; Starved 1.4%; Cholera .4%; Miscellaneous 11.4%.

Summary:- Out of 780 reports 8,935 sows farrowed 72,354 pigs and 51,111 pigs were saved to weaning time.

Now is the time to reduce this loss.

Have the sow gaining in flesh at breeding time.

During the gestation period -

Feed the sow a good ration.

Keep her in good physical condition.

Give her plenty of exercise, make her go some distance for her feed each day.

Provide comfortable sleeping quarters.

Prevent injury to sow, that is, from following steers, etc.

Further suggestion on other losses will follow at the proper time." -

J. B. Rice, Department of Animal Husbandry, U. of I.

They are Among the Best - "Professor H. W. Mumford, Director of the Illinois Agricultural Experiment Station, recently received a letter from James Zetek, Specialist in Tropical Entomology at Ancon, Canal Zone, in which Mr. Zetek says, "I want to thank you very much for your kindness in sending me the bulletins and circulars of the Station which you direct and tell you I appreciate all of these. They are among the best produced by all of our experiment stations."

Local Talent Proves Feature at Annual Meeting Program - "One of the features at the annual meeting of the Stephenson County Farm Bureau was the part taken in the program by local community units. The South Side Poultry Club staged three features concerned with poultry work in the county. A quartet from German Valley Community rendered several vocal selections. Instrumental music was rendered by an orchestra from still another community. The feature of the entire program was a home talent play entitled, "Pumpkin Hollow" featuring the work of the local Co-operative Milk Marketing Company. This play presented by the Pleasant View Community was enthusiastically received by the audience of 800. Is there not a suggestion here to use more local talent at annual meetings, farm bureau picnics, and other county wide meetings?" - J. D. Filsbornow, Ass't. State Leader.

Farm Orchard Pays - "The Farm Bureau arranged with Russell Bell to do the work in pruning and spraying the Farm Bureau demonstration orchard during the past season. A detailed report kept shows that a fair profit was made on half the receipts from the orchard after counting out wages for the time spent in work and materials used. If an outsider can make money on 50% of the receipts of an orchard, it would appear that it is a good proposition for those who can arrange to give such care to their own farm orchards." - F. E. Longaire, Grundy County.

If you think you cannot worry
If you worry you cannot think.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the transparency and accountability of the organization. This section also outlines the various methods used to collect and analyze data, ensuring that the information is reliable and up-to-date.

2. The second part of the document focuses on the financial aspects of the organization. It provides a detailed overview of the budget, including the projected income and expenses for the upcoming year. This section also discusses the various financial risks and how they are being managed to ensure the organization's financial stability.

3. The third part of the document addresses the operational aspects of the organization. It describes the various processes and procedures that are in place to ensure the efficient and effective delivery of services. This section also discusses the various challenges that the organization is facing and how they are being addressed.

4. The fourth part of the document discusses the human resources of the organization. It provides a detailed overview of the current staff, including their qualifications and experience. This section also discusses the various recruitment and retention strategies that are being used to ensure that the organization has the right people in the right places.

5. The fifth part of the document discusses the marketing and public relations of the organization. It describes the various strategies and tactics that are being used to promote the organization's services and build its reputation. This section also discusses the various challenges that the organization is facing in this area and how they are being addressed.

6. The sixth part of the document discusses the legal and regulatory aspects of the organization. It provides a detailed overview of the various laws and regulations that the organization is subject to. This section also discusses the various legal risks and how they are being managed to ensure the organization's compliance with all applicable laws and regulations.

7. The seventh part of the document discusses the environmental and social aspects of the organization. It describes the various strategies and tactics that are being used to minimize the organization's environmental impact and promote social responsibility. This section also discusses the various challenges that the organization is facing in this area and how they are being addressed.

8. The eighth part of the document discusses the future of the organization. It provides a detailed overview of the various opportunities and challenges that the organization is facing in the future. This section also discusses the various strategies and tactics that are being used to ensure the organization's long-term success.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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Vol. VI.

January 24, 1923.

Every Chick Has a Right to be Well Hatched

"It will soon be time to decide which individuals in the flock are to have the responsibility of producing the year's crop of young chicks. It will usually be worth while to have a small breeding pen, perhaps ten hens and a rooster, especially selected for the characters that are desirable in next year's laying flock. The birds that make up this pen should be chosen with a definite idea in mind so that some real progress can be made. First of all, they must be vigorous and healthy. Every chicken has a right to a fair start by being well hatched and this must begin with the vigor and stamina of the parent stock. In the second place, the selection should include only birds that are typical of the breed they represent and as near perfection as it is possible within the limits of available individuals. There is a great deal of satisfaction as well as a definite money value, to be gained by producing a flock that is uniform in type and color. The successful breeder must form a mental picture of an ideal male and female toward which to be working. This ideal should be high enough so that more than a single year's effort will be required to attain it, and yet not so far removed as to be discouraging.

A few general statements can be made to apply to all breeds. Select rather deep, full-bodied birds with broad backs. Such birds possess an adequate capacity to utilize food. See that they have sufficiently heavy bone to support a system that may be called upon for the strain of long continued egg production. If the parents don't show these characteristics it is useless to expect them in the offspring. A bright clear prominent eye is always desirable. If conditions are such as to warrant the use of two or more breeding pens, be sure to mark the chicks from each so that they can be distinguished later in the season. It is only in this way that the more desirable breeders can be located.

Finally, don't give up just because last year's results weren't all that you had hoped. Most breeders have that disappointment every year. Progress in breeding is often slow and can be maintained only thru constant selection." L. E. Card, Poultry Division, U. of I.

Live Stock Shipping Associations Reorganize-- "The local live stock shipping associations have been having more or less trouble during the past year with producers using the cooperative shipping association as a lever to get bigger prices out of the local buyer. At the last meeting of the association the membership clause in the constitution was revised so that one of the qualifications of membership is that all of the marketable live stock produced shall be shipped cooperatively thru the association. Exception to this is made for straight car loads, feeders and stock sold for breeding purposes. If a man will not ship all of his live stock thru the association, he cannot ship any live stock cooperatively and will be at the entire mercy of the local buyer. Quite a number of signers have been secured on the new basis." - C. C. Burns, Jo Daviess County.

The Home Curing of Pork - "The pork cuts which are usually cured are the hams, shoulders or picnic, and bellies or bacon. The clear plates and jowls may be trimmed and cured for 'lean pork'. For the home use, pork is usually 'sugar cured'. This may be done either in a brine or dry cure as preferred.

A standard recipe for a sweet pickle is 12 pounds salt, 3 pounds sugar (either granulated or brown), 2 ounces saltpeter and 6 gallons water for 100 pounds of meat. Thoroughly mix the salt, sugar and saltpeter together and rub a coating of it over all the meat and allow it to lay in a cool place over night. Add the remainder of the salt mixture to the water (6 gallons) and allow it to boil. Skim off any scum. Pack the meat as compactly as possible skin side down in a stone jar or hard wood barrel which has been previously scalded. The top layer of meat should be placed skin side up with a weight upon it. Then pour in the cool brine. Make sure that all the meat is covered completely. For curing meat which is to be kept until the following summer, each piece should remain in the brine four days for each pound it weighs. Meat which is to be eaten during the winter may be given a milder cure by removing it sooner, (two to three days per pound of meat). Overhaul and repack the meat at the end of the first and again at the end of the second week so that all the surface of the meat comes in contact with the brine, using the same brine. If the brine sours or becomes ropy, remove the meat at once, scrub it thoroughly in warm water, and repack in a clean barrel with fresh brine. A cool cellar, above the freezing temperature is the best place for curing. After curing, remove the meat and allow it to soak for several hours in warm water, thoroughly scrub it and string for the smoke house. This is very important as it makes the meat less salty to the taste and brightens up the color. Hang it in the smoke house and allow it to dry over night before smoking.

A standard recipe for dry cured pork is 5 pounds salt, 2 pounds sugar (granulated, brown or molasses) 2 ounces saltpeter, and pepper to suit the taste for each 100 pounds of meat. Mix the ingredients thoroughly and rub one third of the mixture into the meat and pack it in a tight box. After three days rub another third of the salt mixture into the meat and repack, putting the meat which was on top at the bottom and the bottom meat on top. After another three days rub in the remainder of the salt mixture and again repack. It should remain there for 3 to 4 days to the pound after which it should be removed, washed and dried, as described above. This is not as safe a method as the brine method but the meat has a milder flavor. It works best in a cool, moist cellar.

Smoke over a cool fire of hard wood, such as hickory, maple, apple, or corn cobs smothered with hard wood sawdust. If sawdust is not available use green wood. Avoid pine wood or sawdust as it will give the meat a resinous flavor, and make it black and sooty. The meat should be hung so that none of the pieces touch each other and far enough from the fire - 6 to 8 feet - so that it will not get too warm. Bacon should smoke 24 to 36 hours and hams and shoulders 60 to 90 hours. It is better to extend the smoking period over several days rather than to keep a continuous smoke for the required length of time. Fresh sausage in casings may be smoked for several hours to improve its palatability. It will also keep several weeks longer after smoking.

Many claim that the best way to store cured meat is to pack it in coarse dry salt. This is especially valuable in prevention of mold. Moldy meat may be brightened up by cleaning it with a rag dipped in vinegar, sweet oil, olive oil, or lard.

The U. S. Department of Agriculture (Farmers' Bulletin 1166) gives the following directions for the storage of smoked meat:

"After it is hard and firm, smoked meat may be wrapped in heavy paper and put into muslin sacks. It is very important that the top of the sack be tied properly to keep insects out. Before the hams or strips of bacon are placed

in the sacks, remove the strings from the hams. There is a great tendency to use the same strings to hang up the meat after it is sacked as were used to hang it while smoking. It is impossible to tie the top of the sack and make it insect proof if a string from the meat passes thru the paper and sticks out at the top. In tying the top of the sack make a double wrap before tying a knot, which will prevent the entrance of any insects. Each sack may then be painted with yellow wash, used to protect them, and hung up for future use. Never stack hams and bacon in a pile after yellow wash has been applied.

Recipe for Yellow Wash

For 100 pounds hams or bacon use:

3 pounds barium sulphate	1½ ounces chrome yellow
1 ounce glue (dry)	6 ounces flour

Half fill a pail with water and mix in the flour, breaking up all lumps thoroly. Mix the chrome yellow in a quart of water in a separate vessel, add the glue and pour both into the flour-and-water mixture. Bring the whole to a boil and add the barium sulphate slowly, stirring constantly. Make the wash the day before it is required. Stir it frequently while using, and apply with a brush." - Sleeter Bull, Meats, U. of I.

Legumes are Essential for Permanent Crop Production - "This is a broad statement and if we were considering the permanent production of crops in the greenhouse, or in a garden, or under the intensive systems of agriculture in China, such a statement probably would not stand a challenge. But for the permanent and economical production of our great staple field crops in a large way, under American conditions, legumes are essential. Let us consider briefly the principal reason why this statement is true.

All farm crops require large quantities of nitrogen and with the exception of the legumes draw upon the soil for their supply of this essential food constituent. It is easy to understand therefore that the continuous culture and removal of crops from the land must eventually exhaust the stock of nitrogen in the soil, unless there be some way of replenishing it. By special endowment the leguminous plants, among the more common of which are the clovers, peas, beans, alfalfa and vetch, are capable of drawing upon the inexhaustible supply of nitrogen in the air and utilizing this in their food requirements. In so doing, these plants, thru the decay of their own tissues, add nitrogen to the soil transformed into food that is available for the other crops that follow. Thus by taking advantage of this remarkable provision of nature, and introducing periodically into our rotations a crop of legumes, we are able to avoid that calamity predicted by some scientists not so very many years ago - namely, ultimate nitrogen starvation.

Another very important benefit derived from the growing of legumes, and one which perhaps has hitherto not been duly appreciated, should be mentioned. As a class, the legumes - especially such biennial and perennial legumes as red clover, sweet clover, and alfalfa - are possessed of an unusual power to assimilate from mineral sources such plant foods as potassium, phosphorus and calcium converting them into available forms of food for the crops that follow. For this reason it is especially advantageous to employ such legumes in connection with the application of limestone and rock phosphate. Thru their growth and subsequent decay large quantities of the mineral foods are liberated for the benefit of the ~~less~~ independent feeding cereal crops which follow in the rotation.

In considering the great importance of the benefit of legumes to the cropping system as a whole, the fact should not be overlooked that legumes are well worth a place in the cropping program on their own account because of their great value as food and forage for man and beast." - L. H. Smith, Dept. of Agronomy, U. of I.



The Extension Messenger

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FEB 6 1923

A series of brief notes from the Farm Advisers, College
and Experiment Station Workers and
the State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

January 31, 1923

No. 5

Care of the Breeding Birds

After a pen of breeders has been selected the management problem becomes one of how to produce fertile, hatchable eggs. The principles are the same whether fifteen eggs or fifteen thousand eggs are to be set at one time. Profitable egg production demands that pullets be hatched early in the spring - many weeks in advance of the normal and natural breeding season. This alone makes the problem a difficult one. Conditions under the control of the feeder must be made so like those of the natural breeding season that the hens will respond by laying eggs that will hatch. It is perhaps obvious that the breeders must be in good physical condition. This means good flesh without an excessive surplus of fat in any part of the body. Hens or pullets that have been fed for eggs all thru the winter are frequently in a more or less run-down condition by spring so that their eggs, even tho fertile, have not the power to hatch. High fertility means little if hatchability runs low. If it is assumed that the breeders have not been forced for eggs during the winter months and are in good flesh they may be given an ordinary laying ration of scratch feed and dry mash with particular attention to the following things in addition:

1. Exercise. All scratch grain should be fed in litter to promote exercise and a good circulation.
2. Outdoor range. It will be better for the breeders, from the standpoint of hatchability, if they are allowed to run outdoors on pleasant days all winter long.
3. Green food. A liberal supply is essential to good hatchability. This should be really green - sprouted oats, cabbages, and so forth, not merely succulent as beets.
4. Milk in some form is a very valuable feed for the breeders. They must have an adequate supply of the things contained in milk if they are to produce strong chicks. Fresh skim milk or buttermilk is probably best. Powdered milk and semi-solid buttermilk are excellent substitutes for the raw product. See that the breeding birds have access to one of the three.

If these precautions are followed with birds housed in well-lighted open front houses the breeders should be able to give a good account of themselves during the hatching season." - L. E. Card, Poultry Division, U. of I.

"The poultry exhibit on feeding and housing in one of our windows is serving a good purpose. Two farmers have been in the office to get plans for building a poultry house and many have started feeding the balanced ration as suggested. At a saving of \$1.74 per hundred pounds of feed and with the egg production rather increasing than decreasing, those who are using the prescribed formula feel pretty well satisfied that they will get their farm bureau dues back in a short while just on this one project." - A. A. Olsen, Warren County.

"Poultry and Egg Marketing Associations Pay Farmers - Before farmers undertook to market their own eggs and poultry, they were obliged to accept local prices that were often seven to twelve cents below terminal market quotations. The local dealer who took such margins (spread) paid his operating expenses out of that and had the balance for profit. There are approximately 6,558 dealers operating in Illinois, or about 65 per county - two to four in every country town. The operating expenses and profits for all these must be paid out of the difference between what the dealer pays the farmer and what he gets on the terminal market.

Oftentimes there is no competition among dealers in the same town in buying farmers' poultry and eggs. Then the question arises as to what advantage it is to the farmer to pay the operating expenses of two or three poultry buying stations when each of them pays the same price to the farmers. Where farmers form a cooperative marketing association and bring their eggs and poultry to their own plant, they have only one plant to support for the same amount of business. Where farmers have formed their marketing associations, the farmer receives the terminal market prices, pays operating expenses of one, instead of two to four plants, and gets the balance as his profit.

During the past year every shipment from farmers' cooperative poultry associations to Chicago except three, brought a premium on the terminal market. These three shipments sold at the top of the market. Then instead of paying out of this the operating expenses and profits for two to four local buying stations, they had only to pay operating expenses for one local plant, and divided the profit up among themselves. The operating expenses of these farmer poultry stations is not very great; four cents on every hundred dollars worth of produce marketed." - E. F. Murphy, Illinois Agricultural Association.

"Eight of our More Successful Poultry Farmers have been started in keeping the new poultry account book recently completed by the poultry department of the University of Illinois. We anticipate several more co-operators in this project. One co-operator in this project was Mrs. Wallie Foster of Mazon. Mrs. Foster has recently completed a new Half-Monitor type poultry house, which type has been recommended and given satisfaction in Grundy county. This house is built of tile blocks and has several new improvements in convenience especially planned by Mrs. Foster with the idea of being cared for by a woman. For instance, the floor is of tile blocks overlaid with smooth finish concrete which makes a dry and easily cleaned floor. The roosts are hinged and built of very light material. The dropping boards are a good quality of galvanized sheet metal and also hinged. The nests are of light material and collapsible, making them easily taken apart and sprayed. Convenient roll curtains are arranged for the open front, electric lights are installed and the small trap doors to each compartment on the north side of the house under the dropping boards are of glass provided with additional storm windows for protection. This house was built from the proceeds of the poultry flock. Mrs. Foster has developed an extensive hatching egg trade and with her careful management is receiving a large production of eggs at present." - F. E. Longwire, Grundy County.

Speaking of Cooperative Exhibits, an excellent example is shown in the big poultry show held in Flora, Illinois, the latter part of December. Among those cooperating in various features of this event were: fourteen farm bureaus (led by Clay and Wayne counties) the Baltimore and Ohio Railroad, University of Illinois, Flora Commercial Club and the Clay-Wayne Poultry Association. Over two hundred birds were entered in the show by club boys and girls and three hundred birds were shown by farmers. The Baltimore and Ohio Poultry Club exhibit was an outstanding feature, coming as a result of that company's egg setting project begun last April in fourteen counties.

Strawberries Again! - "The popularity and value of the boys' and girls' strawberry club has been proven. Originating as an idea last year, it has grown to be one of the most popular club projects in Illinois. Last year 739 club members in 48 different counties planted over 285,000 plants. C. P. Close, Horticulturist of the U. S. D. A., characterized it as the outstanding small fruit project of 1922 for the entire country. The idea is spreading to other states this year. It will be continued again in this state. Detailed plans will be mailed to all farm advisers and to others requesting information within the next few days." - H. F. Wolter, Club Work.

Winners - "Six farmers from Grundy county exhibited ten ear samples at the recent State Utility Corn Show, winning first, second, third and sixth white in northern Illinois and seventh yellow. Also first single ear white in northern Illinois. The first prize white was exhibited by C. A. Hunt, of Morris, and scored one-tenth point less than the grand champion sample of the state, a yellow sample exhibited by Messrs. Wm. McKeigan and Sons of Yates City, thus indicating a very close race for high honors. These six men exhibiting at the State Show have been consistent exhibitors at our county shows which have been conducted along the utility line the past four years. Clover seed, including hubam, Grundy county sweet, mammoth and alsike were also winners from Grundy county at the State Show." - F. E. Longwire, Grundy County.

Good Seed Desired - "We have had a small seed corn tester built which we expect to use in an effort to arouse interest in corn testing with special attention being paid to the corn disease project. Our plan briefly is to test ten ears for each man who is interested and when the tests are ready we will have meetings in the various communities where everyone will have an opportunity of seeing the results." - F. M. Bane, Henderson County.

"We Have a Lot of Exceptionally Good Quality Red Clover seed in this county. If you know of any county that wants to buy good quality red clover seed, please put them in touch with us." - Alfred Tate, Monroe County.

Cotton in Illinois - "On Wednesday I attended the cotton meeting held by the Pulaski County Farm Bureau. This was a well attended meeting with much interest. About 700 acres of cotton is in prospect for planting in Pulaski, Alexander and Johnson counties. Johnson county probably will have between 50 and 100 acres. I am counseling farm bureau members to go slow, altho I have to acknowledge the prospects look very good to me." - J. G. McCall, Johnson County.

"The Poland China Breeders met at the farm bureau office and outlined plans for a fat barrow show in Galesburg next winter. There has been nothing offered the Poland China breeders for the fat barrow show since I have been in Knox county. One prominent breeder offered a loving cup to the champion Poland China barrow and another man offered \$50 for the champion pen of three Poland China barrows. It is expected that the other breeders' associations will take similar action at an early date and a swine show or congress will materialize soon." - L. P. Marchant, Knox County.

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"A Farm Without Records Is Like a Clock Without Hands
Running

But Gives No Information" - Jo Daviess Farm Bureau

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS 8 1923

Vol. VI

February 7, 1923

No. 6

The Reid Memorial

"In order that the survivors of James L. Reid (famous originator of Reid's Yellow Dent Corn) may be worthily and comfortably cared for in their declining years, a Reid Memorial Association has been founded. This association proposes to raise a fund of \$10,000, the income from which is to be a fund for the support of Mrs. Reid, now 76 years of age and her daughter, Olive Reid, who is an invalid. Both are now without income except for friends and the Red Cross aid. After the death of Mrs. Reid and Miss Olive, the fund is to go to the University of Illinois as the James Reid Fellowship Endowment. The income from such an endowment would be used to defray the expenses of some student doing research work on corn.

Undoubtedly, the good done for Illinois Agriculture by James L. Reid in his untiring efforts in the development of the famous Reid's Yellow Dent variety of corn, will never be fully comprehended. The aim of the Reid Memorial Association is most worthy. It seems unthinkable that the family of so great a man could now be destitute, yet such is the case. The need is both urgent and immediate. May Illinois respond to this call in a way that will evidence her appreciation." - C. A. Atwood, Ass't. State Leader, U. of I.

New Sprays for San Jose Scale - "The experiments carried on this winter with the lubricating oil emulsion continue to give good results in the control of the San Jose Scale. The laboratory work with the emulsion has shown that it is of advantage in making the stock emulsion to change the formula slightly from that previously given. The following is the formula now recommended:

Formula for Stock Emulsion

Diamond paraffin oil (or similar grade of oil)	1 gallon
Water	$\frac{1}{4}$ gallon
Potash fish-oil soap	2 pounds

The water, soap and oil are placed in a kettle or other receptacle and heated to a boil, heating may be done by open fire or steam. Boil for about five minutes being careful not to burn the mixture, remove from the fire or turn off the steam and pump twice at a pressure of 50 to 100 pounds. Make sure that all the mixture passes thru the pump twice. Do not allow the mixture to cool before pumping. "Here lime sulphur has not been giving satisfactory control, it would seem advisable to use this material, altho we do not as yet give it an unqualified recommendation, due to the fact that our results are taken from only one year's work." - W. P. Flint, State Entomologist, Natural History Survey, Illinois.

Will Use Oil Spray - "Quite a number of our orchardists are planning to use 2% oil emulsion for the dormant spray instead of lime sulphur. They will purchase the prepared oil emulsion in barrels instead of trying to prepare it themselves. Pruning is under full headway in the county. We have had very little cold weather to interfere with this work." - R. L. Eyman, Jersey County.



Legumes as Feeds - "The feeds grown on the farms of Illinois at present are mainly carbonaceous. That is, they are deficient in protein and to some extent, in mineral matters and vitamins. Such carbonaceous feeds as corn, corn silage, corn stover, straws and non-legume hays must be supplemented with nitrogenous feeds such as legume pastures, legume hays and nitrogenous concentrates to produce maximum and economical growth and fat production by farm animals.

The legume pastures and legume hays not only furnish protein, so essential for building the lean meat tissues, the fluids, and the organs of the body, but they also contain much mineral matters which are needed in bone building, and they are especially rich in the most essential vitamins which are needed for the health, vigor and growth of animals. They, therefore, have a triple use as supplements to corn, corn silage, and other carbonaceous roughages, which are relatively poor in protein, mineral matters and vitamins.

The legume pastures and legume hays (especially alfalfa, soy beans and red clover) are, as a rule, the cheapest and best sources of protein, mineral matters and vitamins for the balancing of the predominating carbonaceous feeds produced on the farms of Illinois and are adaptable to feeding all classes of live stock.

The legume yield per acre much more feed as pasture and hay of a high feeding value than do the non-legumes and the value of the manure produced is greater than the value of the manures from non-legume pastures, hay and concentrates. Hence, this means better maintenance of the soil fertility resulting both from the growing and the feeding of legume crops." - H. S. Grindley, Prof. of Animal Nutrition, U. of I.

"Sweet Clover has gained so much in prominence in recent years in Mason county that the demand for this kind of seed surpasses that for common red clover. There seems to be an especially strong interest in sweet clover this spring and the office is receiving many inquiries about growing this crop." - T. R. Isaacs, Mason County.

Stock Yards Fever - "Our cattle feeders have had some loss from the so-called 'stock yards fever' in the feeding cattle they bought this fall and winter thru the stock yards. There have been some losses. The cattle that are generally effected with the disease are the cattle that have been around the yards for some time. Fresh cattle seldom are effected. It shows there are advantages in getting cattle direct from the farms or ranches and shows the need of a plan for feeders to buy direct. We have found that our feeders have been able to avoid losses by keeping the cattle warm and dry for a few days after arrival on the farm and by feeding laxative feeds." - W. B. Richards, Kane County.

"The Rebates coming back from the live stock commission company at St. Louis are advertizing the cooperative marketing of live stock in a commendable way. The old line companies have no argument to off-set this." - G. B. Kendall, Morgan County.

A. Young Farmer Hopeful - "This week I visited the 40 acre farm of a senior in the Bridgeport High School. He took agricultural work there and took part in a dairy feeding project. When the High School sold their cows he took over the milk route and has been doing well with four cows while taking his final year's work. He intends to devote all of his time to the farm after he graduates. This is a case of educating a boy for the farm. He is going to join the farm bureau and continue going forward." - H. C. Wheeler, Lawrence County.

Regarding Section 25 of the Weights and Measures law adopted June 30, 1921, certain provisions of which were not to take effect until January 1, 1923.

"The purpose of this law is primarily to control the accuracy in manufacture of the bottles used for marketing milk and cream. It requires that the manufacturers either have their names appear on the bottles which they manufacture or at least their registration number. The question as to whether or not this would affect the individuals distributing milk in bottles purchased prior to the adoption of this law was submitted to the Department of Trades and Commerce, and they have given the following reply, which I believe is clear. This law is under the jurisdiction of the State Department of Trade and Commerce.

"Farmers, dealers, or retailers of milk or cream will be permitted to continue to use the bottles now owned by them for the sale of milk or cream unless upon inspection by an Inspector of Weights and Measures they are found to be using bottles giving short measure, but bottles purchased after January 1, 1923 must comply with the law as to capacity, name, initials or trademark of the manufacturer and a designating number and the word "Sealed" blown or otherwise permanently marked in the side or bottom of all bottles sold or offered for sale by the manufacturer, dealer or retailer after January 1, 1923, and the use of bottles for the sale of milk by any producer, dealer or retailer purchased after January 1, 1923, that do not comply with the requirements of this section of the law as to markings and capacity is prohibited under penalty. The law seems to apply to bottles used for the sale of milk or cream only, and would not prohibit the sale of milk or cream in containers other than bottles."- H. A. Ruehe, Department of Dairy Husbandry, U. of I.

Changes in Advisory Service

M. L. Mosher resigned his position as farm adviser in Woodford county on December 31, 1922. He was succeeded by Paul E. Johnston who had formerly been assistant adviser in Woodford county. L. J. Barry has assumed Mr. Johnston's former duties.

E. M. D. Bracker resigned as adviser in Knox county, December 31, 1922 and L. E. Marchant, formerly associate in Knox county was promoted to fill the position. A. P. Kemp was employed to fill the position as assistant adviser in Knox county to begin work about February 1. Mr. Kemp has been assistant adviser in Mercer county.

C. C. Logan resigned as adviser in Crawford county December 31, 1922 to take up work with the Lehigh Stone Company. H. F. Crosby, who has been assistant in Edgar county, was employed January 24 to fill Mr. Logan's former position.

P. S. Richey resigned as adviser of Mercer county January 31, 1923 to go with the American Serum Company. He was succeeded February 1 by C. H. Belting former adviser of Shelby county, Illinois.

I. S. Brooks resigned as adviser of La Salle county January 31, 1923 and W. W. McLaughlin was promoted to that position from the assistantship in the same county.

T. Floyd Keepers resigned as assistant in Grundy county December 31, 1922 to take a position with the Prairie Farmer.

Wilfred Shaw has resigned as assistant in Peoria county to take over his father's farms near Marshall, Illinois. He will leave Peoria about February 24.

Charles J. Robinson has been employed as adviser in Shelby county to begin work about February 1. Mr. Robinson was reared on a farm in Kankakee county, Illinois. He graduated in agriculture at the University of Illinois in 1909. Mr. Robinson returns to Illinois from the position of county agent of Fayette county, Indiana.

L. S. Foote at present assistant adviser in Hancock county has been employed as adviser in Union county, where he will take over his new duties about February 10th.

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The Extension Messenger
MAR 8 1923

A series of brief notes from the Farm Advisers, College
and Experiment Station Workers and
the State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

February 14, 1923

No. 7

Facts About Cotton
in Southern Illinois

"Cotton has been grown on the Unionville Experiment
Field in Massac County for a period of ten years.

This field is typical upland and representative of a
large portion of the soils of the extreme southern
part of Illinois. This field is thoroly tile drained and is sufficiently level
so that it is not seriously affected by erosion. The following table shows
the ten year average seed cotton and corn yields on the Unionville Field. Aver-
ages for 1911 to 1921 inclusive, excepting 1919. Bushels and pounds per acre:

<u>Treatment</u>	<u>Cotton</u>	<u>Corn</u>
No treatment	190 lbs.	21.8 bu.
Manure	375 "	27.7 "
Manure Limestone	525 "	33.3 "
Manure Lime Rock Phosphate	549 "	33.7 "
Residues	168 "	22.8 "
Residues Limestone	279 "	34.8 "
Res. Lime Rock Phosphate	291 "	36.4 "
Res. Lime Rock Phosphate Kainit	472 "	40.5 "

The lint percentage of the cotton produced on this experiment field ran
about 33 1/3 percent. The cotton yields on the plots treated with residues, which
included sweet clover as a green manure crop on the limed plots, are lower than
on the manure plots. It seems that the residue-sweet clover treatment affected
the germination of the cotton seed, as the difference in yield is due largely
to the less favorable stand obtained from year to year on the residue treated
plots. The varieties of cotton used successfully on this field have been the
Trice, King and Dodd's Kentucky Prolific; the Trice variety giving probably the
most satisfactory results.

The planting season proved to be a critical time for the cotton crop, in
this section due to the usual heavy spring rainfall. The rains either delayed
the planting or left the ground in such a condition after planting that satis-
factory stands were not always obtained. The planting dates in the ten years,
range from May 1 to May 24. In 1919 there was no crop planted due to continued
wet weather. The dates of first picking range from September 26 to October 24
during the ten years under consideration. In 1912 the cotton crop was planted
May 24 and the first bolls opened September 23. In 1916 the planting date was
May 12 and the first bolls opened October 1. In 1921 the planting date was May
19 and the first bolls opened early in September. There was always a large per-
cent of the bolls unopened at the end of each season. The number of immature
bolls varied with the season.

The results obtained on the Unionville Field indicate that with proper soil
treatment, cotton may give satisfactory and profitable yields, but the ups and
downs of cotton growing in this region may prove very discouraging to those who
attempt it for the first time." - H. J. Snider, Dept. of Agronomy, U. of I.

What Size of Threshing Machine is Used with Varicus Sized Rings? - "In order to answer the above question, and a number of others, the Department of Farm Organization and Management made a threshing survey in East Central Illinois during the summer of 1921. Data were obtained on 142 farms using 74 threshing machines. The results bearing on this question are shown in the following table:

Size of Machines	No. of Machines	Acres of grain threshed per ring			No. of farms in each ring	Av. size of crew
		Average	Lower Extreme	Upper Extreme		
20x36	3	295	170	395	3.3	9.7
22x40	3	367	350	380	4.3	11.7
23x40	5	361	260	410	5.	11.6
24x42	3	376	332	450	5.	13.
26x44	1	467	---	---	7.	17.
28x48	1	715	---	---	7.	20.
32x52	6	684	485	785	9.8	26.
36x56	38	879	565	1250	13.5	28.7
40x60	11	951	600	1200	14.7	28.3
42x64	2	862	725	1000	13.5	28.5
44x64	1	997	820	1175	15.	25

The above data lead to the conclusion that machines from 20 to 28 inches in width of cylinder are about the right size for threshing 300 to 475 acres of grain. Machines from 32 to 44 inches in width are generally used in threshing runs of from 700 to 1000 acres." - E. Rauchenstein, Dept. Farm Organization and Management, U. of I.

Why Cream Tests Vary - "Farmers selling cream may notice that the test of the cream varies from time to time. This may be the operator's own fault as he may be unconsciously causing the variation while he is operating his cream separator. Such a variation may be due to one or more of seven causes.

They are: (1) test of the milk; (2) rate of the inflow; (3) temperature of the milk; (4) speed of the bowl; (5) flushing the separator; (6) unclean separators; and (7) the condition of balance of the separator. All of these factors are under the farmer's control except the first one. A separator may be adjusted to deliver cream of a certain test from milk of a certain test, but when the test of the milk varies, the cream changes accordingly. The herd test may vary from milking to milking and therefore the cream test will also change.

Allow the float to regulate the inflow of the milk. With an excess inflow, the cream test is lowered and with a small inflow, it is raised. The normal skimming temperature should be 85°F. If the temperature is lowered, the cream test raises until the point is reached where the cold, heavy cream will choke the machine. The speed should be that as recommended by the manufacturer of the separator; an excess speed raises the test of the cream while low speed decreases it. The amount of water or skimmed milk used to flush the bowl will cause a variation if the flushings are allowed to flow in with the cream and the cream is diluted accordingly. If a separator is not cleaned properly each time after use, this may be one cause for a variation. An unbalanced separator bowl tends to lower the test of the cream. These things should be kept in mind and if the separator is run under the best conditions for efficient operation, the cream tests should be fairly constant from day to day." - B. A. Stiritz, Dept. of Dairy Husbandry, U. of I.

"Increased Interest in the Sowing of Alfalfa is noted. Testing the soil for acidity and physical texture, innoculating the seed, advice as to methods written in circular letters and oral instructions are the means used in promotion." - Charles Tarble, Bond County.



"Club Work in Wayne County has at least made one farmer a good farm bureau member. Last spring Mr. W. L. White joined the farm bureau so that he could get his children into the club work. His boy joined the Poland China pig club and his girl joined the poultry club. The boy won first prize in the pig club and the girl won sweepstakes or the \$100 scholarship offered by the Baltimore and Ohio Railroad in the poultry club. This has created an interest in farm bureau work in the community where the Whites live. All the farmers in this particular community instead of knocking the farm bureau are boosting it, and I think when the reorganization period comes, we will get an increase of members in this locality." - C. T. Hufford, Wayne County.

Terracing - "Following up the demonstration work on terracing, I laid out 3500 feet of terraces for an orchard man who will construct the terraces and then plant the land to peach trees. We are anxious to get enough of this work done to thoroly demonstrate its adaptation to our conditions." - J. G. McCall, Johnson County.

The First Monthly Reports Are In! Here Are A Few Items Therefrom -

"The various local swine breeders associations, including Poland Chinas, Duroc Jerseys, Chester Whites and Hampshires, have set aside money for prizes to take the best boar and gilt of each breed to the national swine show. They have also offered money for the best club records kept, based on the rate of gain, the cost of gain and the neatness of the report. In addition to these prizes the El Paso Fair Association puts up \$100 per breed for club work. The Shorthorn Breeders Association is offering \$10 in prizes for the best baby beef calves and putting on an additional \$2.50 per head provided they are pure bred shorthorns. This finances the club work in such a manner that the boys and girls are interested in it." - P. E. Johnston, Woodford County.

Keeping Farm Records - "During the month, with the assistance of the specialists from the University of Illinois, we were able to close and summarize eighty farm account books. There are about twenty books that are not yet closed and which we expect to get in the very near future. The value of this work is felt more and more as time goes on and there are new men coming in every year. Apparently without any effort on our part to increase the number they are staying right around one hundred which is the number at the present time. A few drop out each year and a few new ones come in. About eighty of the men at the present time keep excellent books and about twenty need additional help." - P. E. Johnston, Woodford County.

County Shipping Association - "The annual meeting of the Adams County Shippers Association was held at Quincy, January 13, with a very good attendance. Our association is probably the first county association organized in the state, and has been very successful. The organization is controlled by a Board of Directors-13 in number. A director is elected to represent each of the shipping points in the county. 633 cars of live stock were handled during the past year at an average cost of approximately 55 cents per hundred. Practically all of the stock shipped from the county goes to the Producers' companies at East St. Louis and Chicago, the larger volume going to East St. Louis." - F. A. Gougler, Adams County.

Many a man leads a dog's life
He growls all day and snores all night.



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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

February 21, 1923

No. 8

Give the New Pig a Real Chance

"About one-third of the pig crop is lost before weaning time.

The cost of a litter up to weaning time varies but little with the number of pigs. It is difficult to make pigs pay their way

when the litters are small, in fact, small litters cost more

than most of us think. A man may be able to feed a weaned pig profitably to a marketable weight but lose out because his sows raise so few of them. Further than this, a pig well started and well weaned is fairly well grown. The following should be kept in mind in preventing these losses and in giving the pig the chance which he deserves:

1. Clean, disinfect and whitewash the floor and walls of the farrowing pen previous to farrow.
2. Rotation and sanitation are cheaper than worm medicine and unthrifty pigs. Do not allow young pigs to run in contaminated lots. Fresh pastures should be provided when the litters are taken from the barn.
3. Give the pigs a little extra attention during the first two weeks.
4. Increase the sow's ration gradually during the first ten days. Over-feeding the young pigs may cause scours.
5. Feed the sow a ration which is properly supplemented and which has sufficient bulk.
6. Keep the beds dry and free from drafts.
7. Make the pigs exercise every day.
8. Treat sore mouth infection upon first appearance rather than after it has taken its course.
9. Teach the pig to eat before weaning.
10. Give the pig good feed and care at weaning time when he is learning to make his own way." - John B. Rice, Animal Husbandry Dept., U. of I.

Illinois Bulletin "Best Along that Line" - According to Professor F. D. Keim (Professor of Farm Crops, College of Agriculture, Lincoln, Nebraska) the University of Nebraska has found Illinois Bulletin #205, the best treatise published on the subject. In a letter addressed to Dean H. W. Mumford of Illinois, Professor Keim says in part, "I would like to have, if possible, 35 copies of Dr. Mosher's bulletin 205, 'The Grasses of Illinois' sent to me at Nebraska Agricultural College. I would like to use them in our grass study in the Farm Crops courses. I realize that this is rather a big request, but I think Dr. Mosher's bulletin is by far the best thing out along that line. It not only has the information in the way of keys and descriptions, but it also is arranged in such a way that it is very teachable. We would, of course, keep them in our library and use them over and over."

"It's the way a man sticks to a thing that marks him as a success or a failure. Many a fellow has won out at the eleventh hour just because he wouldn't let go. Don't be a quitter."

- Farrington.

Home-Grown Nitrogenous Concentrates - "In the past, live stock farmers in Illinois have had to depend, in the main, upon commercial feeds for the protein concentrates which are absolutely essential to all profitable animal production. If Illinois farmers would produce these protein concentrates economically on their own farms, there would be a considerable gain in the economy of the production of meat and milk. It is better agricultural economics to produce the feed for a stock food than to buy it, if equally good results can be obtained. In the one case marketing farm products is an asset to the feeding operation, in the other it is a liability. That is to say, feeds should be home-grown, insofar as possible, in order to save profits which would otherwise go to the manufacturer, to save the cost and profits of the dealers including commission men, wholesalers, salesmen, and retailers, and to save the cost and profits involved in the transportation of the purchased feed. The saving of the expense of marketing is in itself a large item.

The agronomy department of the Illinois Station has clearly demonstrated that soybeans can be profitably grown in this state. Several of our experiment stations have conclusively shown experimentally that soybeans are an excellent nitrogenous concentrate. Therefore, live stock farmers of Illinois should grow sufficient acreage of soybeans in place of their present acreage of non-legumes to supply their home-grown nitrogenous concentrates instead of purchasing high priced protein feeds.

For feeding purposes, soybeans will produce more digestible protein per acre than any other common grain or forage crop grown in Illinois except alfalfa. Soybeans, as a nitrogenous concentrate for feeding all classes of live stock are superior to linseed meal, and almost if not equal to cottonseed meal and tankage, judging from the chemical composition, digestibility, nutritive value and feeding experiments with these four feeds. Soybean oil meal resulting from the removal of the oil from soybeans for commercial purposes has a higher feeding value than the soybeans themselves on account of both a lower oil and a higher protein content, and also because the oil meal is more palatable and not so laxative as the beans.

The growth of sufficient soybeans in Illinois to furnish at least a considerable part of the supply of the nitrogenous concentrates required for feeding our farm animals will furnish a ready supply of nitrogenous concentrates at all times and in addition will tend to keep the prices of other nitrogenous concentrates such as cottonseed meal, linseed oil meal and tankage at lower levels.

Grow soybeans as a home-grown nitrogenous supplement. Soybeans as a nitrogenous concentrate are in a class with linseed oil meal, cottonseed meal and tankage." - H. S. Grindley, Prof. of Animal Nutrition, U. of I.

Check Up on the Drainage - "Poor drainage results in inefficient use of land and increases the cost of production. During the spring often there are wet spots that delay planting and in many cases hinder field work thruout the year. Altho underdrainage is desirable, if the tile cannot be installed, much can be accomplished by means of dead furrows and surface runs.

When tile have been installed it is usually thought that they need no attention. It is well, however, to inspect the fields where tile are in to see that they are working perfectly. The condition of the soil a few days after a rain is the best indication of how the tile are working. If a wet seepy spot is found over a tile line it is a sure indication of an obstruction. This may be due to a broken tile or filling in of silt due to the tile line not being laid to true grade. Sometimes roots from trees or plants will stop the tile.

It is always well to inspect the drainage outlets at this season of the year. Many open ditches silt in after a few years use and are no longer effective as outlets. Time and money spent in providing good outlets and keeping the drainage lines open will be a good investment." - E. W. Lehmann, Prof. of Farm Mechanics, U. of I.

Legumes and Lambs - "Shelled corn and alfalfa hay are standard feeds for fattening western lambs. Many farmers who might like to feed lambs do not raise alfalfa or clover hay but do raise soybeans. With the object of finding the value of the soybean crop for fattening lambs in a dry lot, 150 western lambs were divided into six lots of twenty-five each. The rations, used and the results obtained are shown in the following table:

Lot No.	1		2		3		
Ration	Shelled Corn	Alfalfa	Shelled Corn	Soybean Hay	Shelled Corn	Whole Soybeans	Soybean Straw
Aver. feed daily per lamb (lbs.)	1.08	1.34	1.12	1.32	.87	.22	1.18
Amt. consumed per 100# gain	323.6	401.6	330.1	396.5	333.8	83.9	454.5
Aver. initial wgt. of lambs	58.45		58.56		58.65		
Aver. final wgt. of lambs	90.57		89.21		83.69		
Aver. daily gain	.34		.33		.26		

Lot No.	4			5			6		
Ration	Shelled Corn	Ground Soy Beans	Soy Bean Straw	Shelled Corn	Soy Bean Oil-Meal	Soy Bean Straw	Shelled Corn	Lin-seed Oil-Meal	Soy Bean Straw
Aver. feed daily per lamb (lbs.)	.87	.22	1.18	.90	.22	1.16	.90	.22	1.18
Amt. consumed per 100# gain	344.4	86.2	469.1	336.	84.1	435.2	339.2	84.8	449.
Aver. initial wgt. of lambs	58.90			58.90			58.23		
Aver. final wgt. of lambs	83.14			83.66			83.64		
Aver. daily gain	.25			.28			.27		

The feeding period covered 96 days, October 25 to January 29. One lamb died in Lot 5 twenty-four days after the beginning of the experiment. Impaction was the apparent cause of death. The figures for this lot are for 24 lambs.

The figures given in the table are for the amount of feeds consumed. The lambs consumed 93% of the alfalfa hay; 76% of the soybean hay and 55% of the soy bean straw. Lots 2, 5 and 6 had good appetites thruout the 96 day period. Lots 3 and 4 and to a less extent 1 showed some tendency to go "off feed" near the close of the experiment, when the days were warm.

Four lambs from each lot are being kept for further experimental work. The remainder sold in Chicago on January 30 for \$15.15, five cents above any others that day. All lots sold for the above price. Market men considered Lots 1, 2 and 5 slightly better than the others. Lot 4 was considered least desirable and 3 and 6 about equal. The lambs which were sold dressed as follows: Lot 1, 49.20%; Lot 2, 50.58%; Lot 3, 49.45%; Lot 4, 49.81%; Lot 5, 49.93%; and Lot 6, 49.94%; A bulletin giving the results of this experiment will be issued later." - W. G. Kammlade, Assoc. Sheep Husbandry, U. of I.

 "Agriculture is the most certain source of strength, wealth and independence; commerce may well be termed the younger sister, for in emergencies she looks to agriculture, both for defense and for supply." - Colton.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

MAR 9 1923

Vol. VI

February 28, 1923

No. 9

Is Red Clover Inoculation Necessary

"Certain observations in Illinois have indicated that the inoculation of red clover may be worth while. The need for such inoculation will depend upon local conditions. Most soils in the state have had natural inoculation for this crop secured thru years of clover cropping. In soils which are in a high state of fertility, symbiotic nitrogen fixing organisms will live for several years. (Records are available showing that certain legume bacteria have lived in a soil more than fifteen years.) On the other hand, soils which are badly "run down" and especially those in the need of lime do not retain active organisms for any great length of time. Inoculation on this type of soil would therefore help in securing a catch of clover.

This does not infer that inoculation will take the place of lime or other fertilizing materials, for it is most effective where soils are well supplied with phosphates and limestone. In fact, it is a waste of time and money to seed red clover on soils which are distinctly "sour". The need for inoculation can be determined by digging up clover plants and examining the roots for nodules. If plants from several parts of the field show good nodule development obviously inoculation is unnecessary. If the field has not grown clover recently and is not in an especially productive condition, the small amount of labor required for inoculation would certainly be justified." - O. H. Sears, Dept. of Agronomy, U. of I.

Soybeans for Fattening Lambs - (As a supplement to the article on page 3 of last week's Messenger, we have asked Professor Kammlade to write the following conclusions of the soybean experiment.) "The utilization of crops and crop by-products may be of as great importance as the production of the crops. The main product of the soybean crop may be sold for cash. However, this does not offer a means of marketing the by-products. To determine the possibility of using the soybean crop for fattening lambs, six lots of western lambs were fed during the present winter. The experiment covered 96 days. Shelled corn and alfalfa hay were taken as the standard ration upon which to base the comparisons.

In general, alfalfa hay fed with shelled corn is superior to soybean hay fed with shelled corn for fattening lambs. This results apparently from the greater amount of refuse in the soybean hay. Lambs will eat a good portion of soybean straw. The gains secured are not as good as with hay but because of the very low, if any, market value of the straw, it may be profitably used depending upon the cost of the supplements. Whole or ground soybeans were not as palatable as soybean oilmeal or linseed oilmeal. Apparently there is no need to grind soybeans for lambs. There was, in this test, a very slight difference between linseed oilmeal and soybean oilmeal in favor of the latter." - W. B. Kammlade, Animal Husbandry Dept., U. of I.



Ton Litter Club Project - "The purpose of this project is to demonstrate the best methods of handling hogs to insure the most effecient systems of pork production and should prove to be a very profitable movement for the farmers of the county. We have 53 entries to date without any special effort. The swine breed associations of the county are giving the project active support." J. E. Johnson, Champaign County.

PRUNING NOTES

"March and April are good months to prune orchards. It is easier to see the branches and to get access to them when trees are dormant than when they are covered with foliage, and in general, this is also as good a time as any from the standpoint of the trees themselves.

Pruning old apple trees in the home orchard. The grower should first remove the dead branches and any which are seriously diseased. He should then study the tree carefully and decide whether any important framework branches should be removed. If the trees have been neglected for some time there will be some such branches. Next, the small lace-like branches over the entire outside of the tree should be severely thinned. In neglected trees this thinning may remove one-half or even more of this kind of wood, the weaker twigs, of course, being chosen for removal. This kind of pruning is laborious and trying to the patience of the pruner, but it is correct in principle and satisfactory in results. It must be performed by working from the outside of the tree and not from the inside. Most of it may be done with pruning shears, working first from the ground and then from the top of a flat-topped wagon. In very tall or very spreading trees considerable numbers of branches may be headed back at points where the diameters are not greater than one and one-half inches. Rarely branches slightly larger than this may be headed. Suckers arising from the base of the trees and water sprouts from larger branches should also be removed.

Pruning bearing peach trees in the home orchard. Generally bearing peach trees in home orchards are more or less scraggly and unsymmetrical in form and it is impossible to greatly improve their shape. Pruning should consist in the removal of broken branches and dead wood, and in a thinning of the new shoots and small branches over the outside of the tree. It is a good plan also to head back the more straggling branches to strong side-branches both in the tops and at the sides of the tree to encourage as compact a habit of growth as possible. In commercial peach orchards it is possible to maintain a rather carefully pre-conceived plan of heading back and thinning. The grower should learn to detect the wood which carries most of the fruit buds, and in thinning the branches be careful to preserve the shoots which carry the most.

Other orchard fruits. After pears come into bearing it is best to remove only the dead branches, taking particular pains to avoid cutting thru any live wood as such pruning is likely to spread fire blight to other branches in the trees. Cherries should be pruned chiefly with a view to thinning the trees and encouraging more vigorous branches. After cherries come into bearing, particularly the sour varieties, which are the only satisfactory ones in Illinois, the annual growths are comparatively short and very tangled. Pruning, therefore, helps to correct both the tangling and the type of growth. In general, plums should be pruned to correct straggling habits of growth and in the case of native varieties, like Wild Goose, to prevent tangling of the branches and the development of dense tops which shut out sunlight and make the trees difficult to spray and harvest." - B. S. Pickett, Chief in Pomology, U. of I.

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"Counsel after action is like rain after harvest."

- Danish.



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MAR 8 1923

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

March 7, 1923

No.10

The Farm Horse Situation

"Horse breeding languishes. Yearlings are scarce; weanlings are scarcer. Horses in farm teams are growing older year by year and poorer too. The whole tendency for several years has been to deplete the stock of good breeding mares, both at the source and the outlet. In most localities there is scant material, either in mares or stallions, on which to expand the draft horse breeding business.

On farms where colts are raised there is no depreciation charge to be made against the horse outfit as a whole. Instead, there is income from the occasional sale of a horse. Best of all is the fact that the man who raises colts secures his horses at absolute cost; no profit to anyone. From three to six years old they are actually growing more valuable while paying with work for their feed. A six-year-old tractor looks much older than a six-year-old horse.

But emphasis must be placed upon merit. It is useless to breed plug horses any more. They cost about as much to raise as good ones and sell for perhaps one-fourth as much. The fact is there is not much of a limit on the price for the few top-notch horses that now find their way to market. It is the general experience in all branches of the live stock business that the breeder of high class animals makes more money than anyone else. He alone actually produces wealth." - E. T. Robbins, Farm Adviser De Witt County, in 1923 "Percheron Review".

Tractor School a Success - "The three-day tractor school which was held last month was a real success. Thirty-six men were enrolled and all report a very profitable time. The local tractor and gas engine dealers cooperated in securing the necessary tractors and gas engines to conduct the laboratory work. Frank P. Hanson from the Department of Farm Mechanics of the University of Illinois, had charge of the laboratory, while Fred Wiley, also from the University, had charge of the lecture work.

The forenoon and afternoon sessions were divided between lecture and laboratory work. It is possible that Warren county may be able to secure such a school again next year. If so, it will undoubtedly be located in some other point in the county so as to accommodate others who felt that it was too far to come to Monmouth this year." - Warren County February Report.

New Leaders for New Projects - "E. C. Lindeman in "The Community" says 'We lack leadership because we lack faith in the so-called common man. We use the same leaders over and over until they reach the point of diminishing returns.' Is there not here a worth while principle for a farm bureau?

The number of potential leaders who will appreciate the privilege of assuming responsibility and serving as leaders is larger and more widely distributed than is generally supposed. Develop these leaders first thru service on committees. Later they will be prepared to serve as leaders for new projects." - J. D. Bilsborrow, Assistant State Leader.



Cost of Producing Pork - "The following statements are taken from the report of an investigation conducted by the U. S. D. A. under the supervision of R. H. Wilcox and G. S. Flannnedson in Illinois and Iowa. The studies included 769 spring litters for 1921:

The important factors influencing the cost of producing pork were:

1. Size of litter weaned per sow or the pork produced per sow.
2. Relative economics made in the use of feed and labor.

The cost of producing a weaned pig varied from \$2.73 to \$10.16, varying indirectly with the number of pigs weaned per sow. Thirty-four percent of the pigs farrowed were lost before weaning time. The cost of producing 100# of pork varied from \$3.76 to \$10.48 with an average of \$5.88 on 882,758 pounds of pork. The principal causes for the high costs were: (1) Small litters weaned, (2) heavy expenses other than feeds, (3) slightly slower gain per head daily, and (4) little use of forage pastures. Over 80% of this pork was produced for less than \$7 per 100#. The cost per 100# of pork varied indirectly with the number of pigs weaned per sow.

About 3 1/8 percent of the total pork produced was lost thru deaths, so the cost of producing 100# of marketable pork was slightly higher than the cost of pork produced. The average figure for the 51 farms was \$6.08 per 100#. The return per bushel of corn fed to hogs varied greatly from one farm to another - 10% returned over \$1 per bushel of corn fed them; 15% returned between 75¢ and \$1; 31% returned between 50¢ and 75¢; 34% returned between 25¢ and 50¢; and 10% returned less than 25¢."

Supplementing these data, the investigations of our own department of Farm Organization and Management show that feed which makes up over 80% of the cost of producing pork at present grain prices and that the amount of grain feed required for producing 100# of pork varied from 400 to 530# on different years for the average of all cooperating farms, and that the feed required for 100# pork produced exclusive of forages varied from about 345 to 550# on different farms for the same year." - E. C. M. Case, Dep't. Farm Org. and Mgt., U. of I.

There is Still Time to Burn the Chinch-Bug - "There is still plenty of time for effective chinch-bug burning. The bugs very rarely leave their winter quarters in central Illinois until after the 20th of April. We are nearly sure to have periods of dry weather before that time when effective burning can be done. One of the best times to burn is when the cover is dry and the temperature is between 50° and 60°F. At this temperature the bugs become active and while they will not fly they crawl up to the top of the cover in which they have been sheltering, and can be reached by the fire more effectively than when remaining close to the ground. One should not be discouraged because the weather has not as yet been dry enough for burning. There is still plenty of time to give the bugs a roast before they leave their winter quarters." - W. P. Flint, State Entomologist, Natural History Survey.

Dairying - "We held a successful dairy cow judging contest for both boys and men during last winter, which was followed by several good dairy meetings at several points in the eastern part of the county. This was followed by some personal work in the interest of a Jersey Dairy Bull Association, organized in May 1922, with breeding blocks at Mt. Pleasant, Dongola and Anna. Three thrifty vigorous yearling Jersey Bulls were purchased, two of them half-brothers. They are of Raleight breeding, with excellent records back of them." - Union County Annual Report.

"A Significant Feature of the recent Northern Illinois Short Course program was the discussion of subject matter topics by local farmers." - W. H. Smith, State Leader.

A Successful Short Course - "The most successful project of the month of February, was our Short Course held at Sandwich. Besides the discussions of the University specialists the program included representatives of the Illinois State Teachers' College and Farm Advisers. There were also hay, grain, poultry, baking and dress making shows in connection with the Short Course. This course was well attended, 200 being the smallest crowd and at one evening session over 450 were present. I believe this project should be pushed in the future.

The success of a short course of this type is largely dependent upon the preliminary work. At the first meeting at Sandwich there were only five farmers present. These made out a list of all the people they knew that should be interested in a Short Course. Each one took about ten names and the Farm Bureau wrote a letter to them, asking that they attend a meeting on the following Saturday. At this meeting there were about 35 farmers present. A round table discussion was held where the proposition was sold to the community. Every farmer present agreed to bring in an exhibit of grain and corn and to get as many of his neighbors as possible to do the same. Program, finance, publicity, housing, poultry show, grain show, and baking show committees were appointed. In all there were about 35 farmers on the various committees. Individual committee meetings were held with much interest and enthusiasm. This preliminary work was largely responsible for the large crowds in attendance at these meetings." - De Kalb County February Report.

Cooperation Pays - "We have found that by cooperating with the community high schools of the county in putting on farmers' institutes that we are able to get much larger crowds and arrange better programs than we could have before following this plan." - W. W. Wilson, Bureau County.

Ton Litter Club Premiums - "The Poland China Breed Promotion Committee offers \$25 to the winner in each county section of the Illinois Ton Litter Club on the following basis:

1. That the heaviest litter is sired by a registered Poland China boar, and weighs at least a ton.
2. That the rules governing the contest as outlined by the State Leader of the Illinois Ton Litter Club be complied with fully.
3. That all records of weights, gains, and rations be available for inspection at the end of the contest.
4. That application for the above premiums be made by the county club leader in charge, direct to P. W. Young, Secretary of the Poland China Breed Promotion Committee, 507 Peoria Life Building, Peoria, Illinois.

The National Duroc Jersey Record Association is offering \$50 for the winning litter in each county provided it is sired by a registered Duroc Jersey boar." - W. H. Smith.

Start Your Club Work Now! - "Most counties have already appointed their county club committees and have formulated programs of work for the coming year. Every county contemplating this work should appoint such a committee and make plans for next year's work. Now is the time to organize your local club groups and secure the local club leaders. Plans for a county program, outlines of club projects and suggestions on local club organization can be secured by writing the Extension Service." - H. F. Wolter, Club Work.

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Don't slow up your wagon at the mud holes - it might stick.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

March 14, 1923

No. 11

The Boast of a Chinch Bug

January

"I'm a little chinch bug
Hid away from sight
Here to spend the winter
Where the cold and wind don't bite.

I'm covered up so cosy
Beside the sheltering hedge
In grassy spot - on sunny slope
and along the woodland's edge.

Next summer you will find me
In millions I'll be seen
I'll fly away to other fields
Where wheat is growing green.

And when the wheat is harvested
I'll travel to the corn
I'll bring on all my children
And we'll work both eve and morn.

O, nothing do I fear or loathe
Save the farmer's coal-oil torch
Which comes to burn me in my home
O, say, how it does scorch!

Just leave me unmolested
This entire winter thru
And I'll bring out all my forces
To let you know who's who.

I'll destroy your corn and oats and wheat
As completely as can be
There'll be nothing left to harvest
If you'll leave it all to me." - C. A. Atwood

July

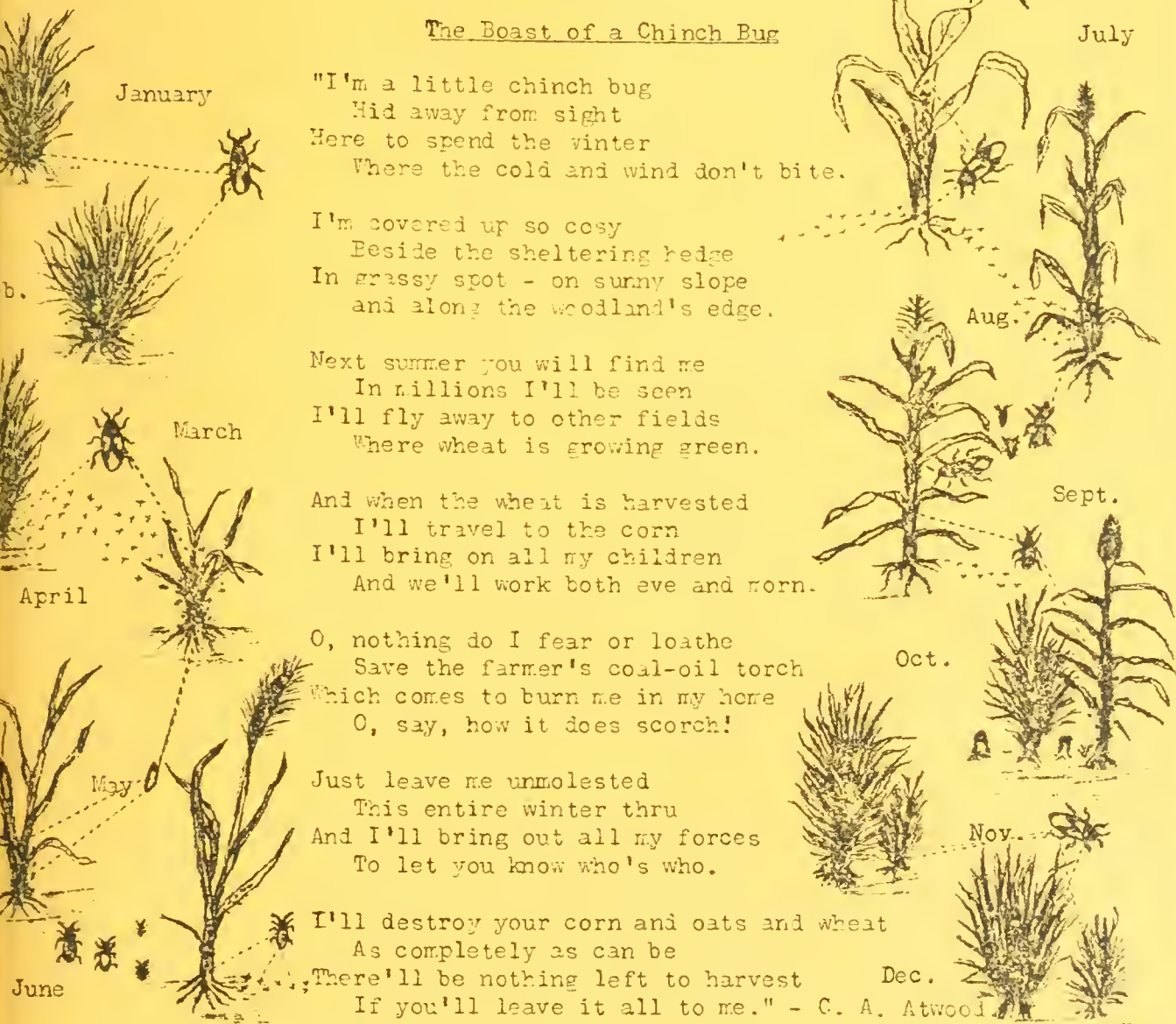
Aug.

Sept.

Oct.

Nov.

Dec.



NOW Roast 'Em - "If we are going to burn the bugs we will have to do it within the next three weeks. Take advantage of every dry day during that period. An hour's burning NOW may save 100 bushels of corn." - W. P. Flint, Natural History Survey.

Spring Conference Dates - "The dates and places of meeting for the Farm Advisers' District Conferences have been set as follows -

Southern Illinois - Centralia, April 2 and 3

Northern Illinois - Chicago, April 4 and 5

Central Illinois - Decatur, April 9 and 10

Northwestern Illinois - Galesburg, April 11 and 12

This new plan combines the Springfield and Urbana districts in the meeting at Decatur. Mark these dates on your calendar now. Detailed programs later." - W. H. Smith, State Leader.

The Boone County System of Cow Testing Work - "One of the biggest ways of helping dairy men in this section of the state is thru the Cow Testing Association. Last summer we tried to organize an association of 26 members and only 17 men signed up. Their excuse was that it costs too much money. Another plan was worked out whereby each member takes his own samples of milk monthly. Glass tubes and special paste board boxes are made to order for sending by parcel post, were provided for each of the 110 members. Milk scales were bought collectively so that each man weighs the milk every two weeks, weighs the feed once each month, and samples the milk for test on a given date each month. To check up on the factory test a composite can sample is taken weekly and this is preserved and is tested when the tests of the individual cow samples are made. The farm bureau has installed a 24 bottle electric Babcock machine with all necessary equipment. Mr. Hughes, our tester, spends all his time testing and keeping the records of the 110 herds. The members are charged a flat rate of \$10.20 per year. This figure, however, is somewhat lower than I would now recommend as good men are required to properly carry on such work and they demand a larger salary than the ordinary tester. A charge of about \$14 per year would be sufficient.

During the two months of operation a large quantity of the milk has been sent in by parcel post. Only a very few bottles came thru broken. The fact that a farmer can conveniently send his milk to the office by parcel post for ten cents accounts for the reason that 98 out of the 110 members during February sent their milk samples and feed records in on time. Five and six herds are being tested daily. This project is taking better among the farmers than any project that I have had anything to do with during the five years of county agent work. We now have 12 men on the waiting list and expect to start a second association during the spring." - J. C. Kline, Boone County.

Increased Profits - "Harlan Watson, one of our farm bureau members, reports that he has increased his profits on four cows \$19.03 per month as a result of feeding the balanced ration recommended by the farm bureau." - A. A. Olsen, Warren County.

The Organization of Clubs in the County has been held up some due to the very bad condition of the roads but meetings are scheduled for all clubs, not organized early in March. We have added a poultry project this year and already have a number of girls started on the project on March 1st, keeping records on the entire farm flock. Some time has been spent trying to organize clothing clubs in all the towns in the county. We are asking the different household science clubs in the county to help promote the project and reports received to date indicate it will be a popular project in some communities." - P. E. Johnston, Woodford County.

"For Our Pure Bred Dairy Heifer Project we have approximately twenty men interested but have not taken definite action yet in getting any stock." - C. W. McWilliams, Randolph County.

Purebred Live Stock Directory - "At a meeting of the farm bureau executive committee, it was voted that the purebred live stock directory gotten out in 1922 be revised and brought down to date. Blanks for the listing of the pure bred live stock have already been mailed to the members." - J. H. Allison, Calhoun County.

"Five Purebred Hog Sales have been held in Richland county already this year. In the spring of 1918 there were no such sales. This is indicative of the growth of the purebred hog business in this county since the farm bureau began operation April 1, 1918. 150 individuals were sold in these sales at a small profit to the grower." - H. B. Piper, Richland County.

Hog Sales - "During the last days of January, the month of February and the first days of March there were 32 public sales of pure bred sows held in the county. A total of 1200 head about equally divided between Hampshires, Poland Chinas, and Duroc Jerseys were sold. The average price was about \$47.50 per head. In addition to these sold in sales, a large number have changed hands privately at from \$30 to \$40 per head. There is a demand for all this good stock but prices are somewhat lower than last year." - W. W. Wilson, Bureau County.

"The Horticultural Short Course at Centralia was well attended considering the weather. An excellent program was worked out and every number on it was very good and well received by those attending. An example of the interest is shown by the fact that 120 attended a pruning demonstration, walking about two miles there and back with the thermometer at about 15° above and a heavy north-west wind blowing. The temperature the day before was about 60° above. This shows how the men appreciated the work we were doing for them, and the same interest was manifested thruout. With good weather, the attendance would have been doubled." - F. J. Blackburn, Marion County.

"The Fruit and Vegetable Short Course held in cooperation with the University of Illinois and the Illinois Agricultural Association was very well attended and proved quite interesting and helpful to the truck growers of the county. A four-day school was held, January 30 to February 2." - F. A. Gougler, Adams County.

"Thus Far We Have Held Four Pruning demonstrations in various parts of the county. Mr. Newton was with us one day. We have only one commercial orchard in the county but we have a large number of rather large farm orchards. Some of the men who did their first spraying last year have been a big help to us in arousing interest in this kind of work. Their orchards proved to be good ads especially when the threshing rigs were making their rounds and the help had a chance to compare orchards." - F. M. Bane, Henderson County.

"The Milk Marketing Situation in this territory is beginning to clear up. At the annual election of the Milk Producers' Association held Tuesday, February 13, a new set of officers was elected and a number of resolutions passed indicating that the membership was anxious to get together on a harmonious program and put aside their past differences." - Alfred Raut, Madison County.

"Judging From the Inquiries Concerning Seed that have come in there will be an increase in the amount of alfalfa sown in the county this spring. This is proving to be one of the most valuable crops and, with corn silage, forms the basis of dairy rations as well as for feeding other live stock." - J. J. Doerschuk, Lake County.

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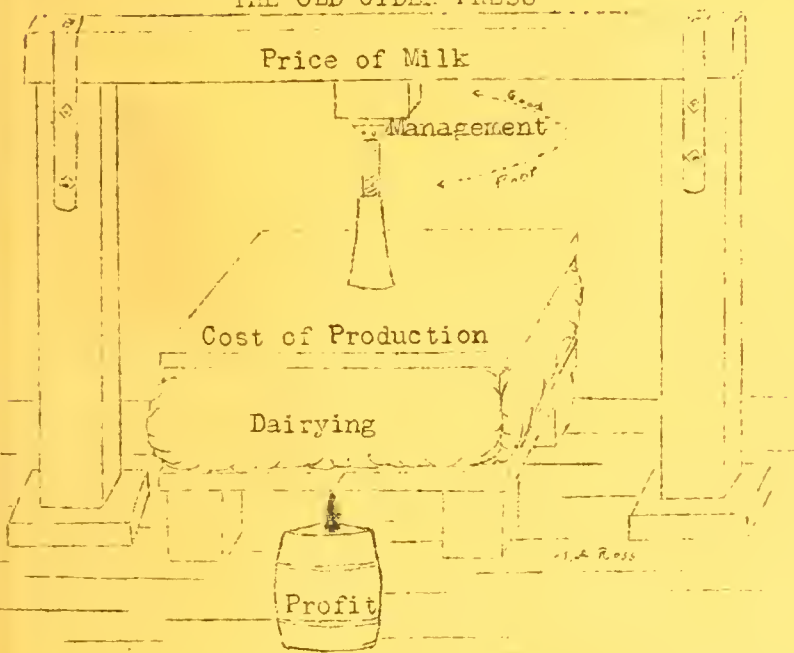
UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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March 21, 1925

No. 12

THE OLD CIDER PRESS



In which direction are YOU turning?

cost he squeezes a profit out of his business. On the other hand, the dairyman who has a herd of low producing cows, who feeds them timothy hay and cornstalks and then tries to get a big milk flow by purchasing high-priced commercial feeds, is turning the handle in the wrong direction. This dairyman is raising his cost of production and as a result he gets little or no profit.

The illustration applies to other types of farming as well as to dairying. The individual farmer has no control over market prices but he does have the power to control, within reasonable limits, his individual cost of production. Our successful farmers are the ones who screw down their costs of production." - H. A. Ross, Dept. Dairy Husbandry, U. of I.

They Need Lime - "One of the things we have been doing this winter is to get the farmers together to test soil for acidity. About 40% of the soil in the county shows that it needs about four to five tons of limestone per acre. Particularly has this been interesting where farmers have been trying to get a stand of clover. We believe this has been as valuable a piece of work as could be done during the months of January and February for this spring's seeding." - John S. Collier, Kankakee County.

Which Way Are YOU Turning The Handle? "The majority of farmers see little similarity

between dairying and a cider press except that each hides an awful kick. That the industries of cider-making and milk-making are very much alike, however, may be seen from the drawing. The results from each depend entirely upon the direction in which the handle is turned.

The dairyman who has a herd of high producing cows, grows his own leguminous roughages, feeds a cheap but well balanced ration, and manages his business efficiently, is turning the handle in the proper direction. In other words, he is forcing down his cost of production and as he lowers his



No Need for Abandoned Farms in Illinois - "Part of the 5,500,000 acres of Illinois land that is now subject to serious soil washing has already been abandoned. More will be abandoned unless further erosion is checked. The abandoned land which, in practically every case, is a yearly expense can be made useful and give some return on the investment needed to redeem it.

Southern states have been using various methods for preventing soil erosion for years. In some localities it is difficult for farmers to borrow money from banks unless their land is terraced or will be terraced. One Federal Farm Loan agent allows a valuation one-third greater on terraced land than on unterraced land.

We have some proof of the value of preventing soil erosion on Illinois land by experiments conducted at Vienna Field in Johnson county. This field comprised 16 acres of which all but three acres had been abandoned. The results of experiments conducted on this field between 1907 and 1915 are briefly summarized in the following table:

Vienna Field: Methods of Handling Hillside Land to Prevent Erosion
Average Annual Yields - Bushels or tons per acre
1907 - 1915

Section	Method	Corn 7 crops	Wheat 7 crops	Clover 3 crops
A	Terrace	31.4	9.00	(0.68)
B	Embankments and hillside ditches..	32.4	12.7	(0.97)
C	Organic matter, deep contour plowing and contour planting.....	27.9	11.7	(0.80)
D	Check	14.1	4.6	(0.21)

The land was divided into Sections A, B, C, D, and different methods of preventing erosion practiced on the A, B, and C plots, while D remained as a check or, in other words, was farmed in the most convenient way without giving any special attention to preventing washing. These results show the possibilities of improving abandoned Illinois land, and the results to be obtained for Illinois land that is now subject to serious erosion but not abandoned would no doubt be striking if figures were available. By all means, farm land should not reach the stage of abandonment before any measures are taken to redeem it." - H. P. Hanson, Dept. of Farm Mechanics, U. of I.

Atwood Resigns - "Mr. C. A. Atwood has resigned his position with the Extension Service, to accept the general agency for Central Illinois of the Provident Mutual Life Insurance Company. Mr. Atwood has been Assistant State Leader since 1913 and during that time has played an important part in developing the farm advisory work in Illinois. His work with the Extension Messenger and the supervision of the counties in the northwestern part of the state has made him many friends in the Extension Service and among the farmers of the state, all of whom will unite in expressing their best wishes in his new field of work. Mr. Atwood will take up his new work in April with headquarters at Springfield, Illinois." - W. H. Smith

Mr. M. L. Mosher, who for seven years has been farm adviser in Woodford county, has accepted a temporary appointment in the Department of Farm Organization and Management. Mr. Mosher will give special attention to the preparation of the manuscript dealing with the farm accounting work, which he has been carrying on in Woodford county over the past seven year period. With this report will be incorporated results from farm accounting work carried on in other counties within the state.

"On Our Project for a number of corn and soybean plots, we have obtained four cooperators and plan to have a number of others." - C. W. McWilliams, Randolph Co

"Your Club Work Can Be Given a Boost as it was in McLean county. The leaders of local clubs, club members and interested adults, were invited to an all day meeting at the farm bureau office. Arrangements were made with the County Superintendent of Schools that any rural school attending would be given credit for a day of school. In the morning 40 boys, 46 girls, and 34 adults were present. The meeting opened with Illinois club songs. Following this H. F. Wolter and Miss Harriet Phillips, discussed the plan of club organization, the requirements for standard clubs, and standard achievement clubs, and demonstration teams.

After more songs the meeting adjourned for a picnic lunch which all had brought. Hot coffee and cocoa were served by the farm and home bureaus. After lunch, games were played for 30 minutes. In the afternoon the meeting was divided into a group interested in pig, sow and litter, calf, garden, and sheep clubs and another interested in garment making, home canning, and bread making clubs. These groups were given detailed information concerning the different projects and club enrollments were taken.

This type of meeting is an excellent way to get the club work started in a county as it saves time, gets the information to the leaders more clearly and has an advertising value. Perhaps all counties cannot have so large a meeting, but I believe one can be arranged in most counties with much profit to the club work." - E. I. Pilchard, Specialist.

Plowing Under Sweet Clover as a Green Manure - "The wide popularity which biennial sweet clover is gaining as a green manure crop is fully justified and the increase in its acreage is one of the important steps in improving Illinois soils.

First, since it is a vigorously growing legume, the fixation of atmospheric nitrogen is large. Second, it has an extensive root system and is a vigorous feeder upon the mineral plant nutrients of the soil. Another important advantage is that it is admirably adapted as a catch crop. Under most conditions biennial sweet clover is superior to the annual type. It is particularly adapted to spring plowing but may also be plowed under in the fall. It has frequently been observed that fall plowing may be followed by a renewal of growth in the spring which is rather difficult to eradicate, thus the fall plowed sweet clover may become a weed in the following corn crop. However, by thoroughly discing late in the spring so as to destroy all the above-ground growth there should be no great difficulty here in most seasons.

Where spring plowing is done the time at which clover is turned under will have a considerable effect upon the amount of organic matter obtained. The increase in growth during April is quite large and where turning under can be deferred until later in the spring, this extra organic matter will be added to the soil. It is not known how much additional nitrogen is fixed by the spring growth. The major portion of the nitrogen fixed by this crop in the summer and fall growth of the preceding season is carried over the winter in the roots. This surplus is brought up the next spring and thus a portion of the nitrogen contained in the tops of the spring crop is of the preceding year's production. There is undoubtedly some gain in nitrogen due to the spring growth but the amount has not been determined." - E. E. Deturk, Division Soil Fertility, U. of I.

"The Ton Litter Club is the out-standing project of the farm bureau for the month of February. We have secured the cooperation of the Springfield Chamber of Commerce and they are offering \$175 in cash premiums. Every bank in Sangamon county is guaranteeing a gold medal to its customers. The Sangamon County Swine Breeders' Association is offering \$150 to the winning feeders of pure bred litters. Business men thruout the county are offering premiums valued at approximately \$300 for winning litters. If the interest in this project continues we expect to have a registration of between two and three hundred litters." - I. A. Madden, Sangamon County.

UNIVERSITY OF ILLINOIS LIB

MAR 21 1923



The Extension Messenger

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MAR 29 1923

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

March 28, 1923

No. 13

The Threshing Ring

"That it is not generally as efficient for each man who has grain to thresh to make arrangements for the threshing machine and also the necessary labor, is shown by the fact that a number of threshing rings have been organized and have given satisfaction. By having an organization with a president, vice-president, secretary-treasurer, machine committee, straw boss and time keeper, greater efficiency of labor is secured and the time of threshing shortened. The settling up on a money basis at the end of the season gives everybody a fair deal and provides against a large amount of dissatisfaction which usually exists where the custom of equal trading of labor is followed. The practice of allowing an hour's credit of labor to the farmer who feeds the threshers for dinner, is some inducement to have the machine start at 10 or 11 o'clock in the morning when the grain is dry, when otherwise it would not start until after dinner. The farmers wives are also in favor of a threshing ring because with an organization it is not long until it is the custom for everyone except the machine men to go home for supper. The organization of a threshing ring will encourage cooperation among farmers and offers an excellent demonstration of the value of such cooperation. This is the time of the year to complete the organization of a threshing ring in your neighborhood, so it will be all ready to function when the threshing season comes." - V. Vaniman, Ass't. State Leader.

"Boys' and Girls' Club Work is one of the most valuable projects a farm bureau can undertake. There are about three main reasons -

1. It puts the adviser or club leader in touch with a large group of the best people in his county. People who are willing to help their children in such a project are usually above the average in their appreciation of educational work such as is conducted by the farm bureau. The bond established thru the children is a strong one. Parents of club members develop into dependable farm bureau workers.

2. Club work gives an opportunity for demonstrating desirable farm practices. The children are taught the best methods of feeding and caring for their animals, or of doing whatever the particular project may require. What the children learn the parents and the community are likely to learn also. Work with the children modifies farm practices as surely as does work with the grown ups.

3. Club work develops future farm leaders. The boys and girls in a club, learn to work both as individuals, and as members of a group. As individuals, it is remarkable to note the improvement they make from year to year. A boy who fails in feeding a pig the first year of club work often corrects his mistakes and comes back a winner the second. As members of a group, they learn how to organize, and become accustomed to doing the work. The habit of trusting the farm bureau and working as a unit of it will stick with them as they grow older." - J. W. Whisenand, Henry County.

The 1923 Spray Program - Equipment - "Most orchardists are underequipped. Not only are spray outfits too few in number, but altogether too many units are too small. A small outfit is always overworked, and often breaks down at the critical time. Lack of power usually means poor spraying, because time is short and more speed spells fewer gallons of material per tree. Outfits should be thoroly overhauled, spare parts such as diaphragm rubbers and pump packings should be kept in stock and extra lengths of hose should always be bought well ahead of the immediate requirements. Even such a small thing as a missing rubber gasket can keep a team and two men idle for an hour while a leaky connection is being repaired. Many men are keeping an outfit on reserve, and estimate that the overhead thus incurred is easily justified. Another method is found in the use of a "conveyor" or tank wagon with small rotary or centrifugal pump driven by a small engine. Such a unit may cost \$125 and in terms of acreage sprayed be equivalent to a \$600 sprayer. The conveyor idea makes it possible to increase the efficiency of the best workmen, and good spray hands are scarce at best.

The average sprayer is equipped with some form of tank filler operating usually on the jet principle; a very few have rotary pumps operated by a flexible gear from the engine. These tank fillers are time savers, and are far ahead of filling by hand; they do, however, result in wear and tear on pump and motive power which should be expended on actual spraying. A good type of equipment to replace the tank filler is a stationary pump outfit consisting of a $2\frac{1}{2}$ or 3 horse power engine and a rotary pump. If more than one source of water is used, this unit can be mounted on skids to be moved from place to place.

Since any engine may get balky at times, the elevated platform upon which is a tank of 400 to 600 gallons capacity can be utilized as a reserve to keep spray outfits going until the filler engine or pump can be repaired. Under this plan the spray tank is filled by gravity.

Where the topography of the land will permit, the gravity filling station is ideal. The spray pond is located so that a pipe driven horizontally from the bottom will still be high enough at the outlet to fill the tank of the sprayer. A two inch discharge pipe will thus fill a 200 gallon tank while the workmen are getting the spray materials into the tank.

Spray materials are corrosive, and spray machinery deteriorates more rapidly than most kinds. Every night the pump and engine should be looked over, and wiped off with oiled waste or rags. Any threads or bolts which may need adjustment from time to time should be carefully oiled daily to prevent the action of spray materials. It is an unfortunate fact that three-fourths of the pressure regulators in use cannot be adjusted without damage to the regulator. This and most other difficulties can be avoided with a little care.

The spray gun is an admirable implement and in the hands of a skillful operator can possibly be made to save both time and material. The spray gun has been much abused. The originator of the gun designed it for use on a high powered outfit of large capacity. Most of the guns in use at the present time are found on outfits which were never designed for an output greater than that of two lines of hose with one or two whirlpool nozzles each. It is no uncommon thing to see some men trying to operate a gun with a two cylinder pump and a 3 horse power engine. It is possible, of course, to diminish the size of the disk to an output which will not tax the capacity of the smaller pumps, but in so doing there is nothing gained over the rod and whirlpool nozzle. The spray gun should not be used with less than 300 pounds pressure, and the pump should be able to maintain this pressure with the gun wide open." - W. S. Brock, Specialist in Horticulture, U. of I.

"Maybe you have noticed that the man who isn't
'up' on a thing is usually 'down' on it."

Strawberry Bulletin Available - "A new edition of the Strawberry Club Manual will be ready for distribution during the coming week. Advisers having strawberry club enrollments should send the orders directly to the plant grower and send copies of the enrollment to the State office. If you want your members to receive copies of the bulletin be sure to send in your enrollment." - H. F. Wolter, Club Specialist.

Farm Bureau Reaches Members via Radio - "A. E. Davidson of Brown County is the proud possessor of a fine radio receiving outfit. On the evening of March 15 at the conclusion of the program from the Davenport, Iowa, station the following announcement was given:

'The Rock Island County, Illinois, Farm Bureau wishes to announce the postponement of the meeting scheduled for Friday night owing to storm. Date of postponement will be announced later.'

How will radio serve the farm bureaus five years hence?"-J. D. Bilsborrow.

"Get Acquainted with Your Neighbor, You May Like Him!" said Mr. J. R. Howard, at a recent Winnebago county farm bureau farmer-business man dinner in Rockford. "Prosperity of the farmer is vital to the life of our nation; co-operation between the farmer and his city neighbor is a necessity, so that is why I ask you to get acquainted with your neighbor, you may like him." Over 400 Winnebago "neighbors" were there getting acquainted, each with the others' problems, aims and ideals. A business man was invited for every farmer who agreed to attend. A great deal was accomplished in mutual understanding which will help in the future development of farm bureau work. - C. H. Keltner, Winnebago County.

"Arrangements Are Being Made with farmers' elevators to handle seeds recommended by the farm bureau. The Galesburg Elevator Company has been a clearing house for farm bureau seeds this month, relieving this office of much trouble and expense. There is a growing demand for limestone in less than carload lots in various parts of the county and our township soil improvement men are co-operating with the Farmers' Elevator and Shipping Associations, making plans to keep a supply on hand all months of the year." - L. R. Marchant, Knox County.

Cooperate with Smith-Hughes Teachers - "Farmers' Institutes held at Kasbeer, La Moille, and Tiskilwa in connection with the High Schools were decided successes. We find that by cooperating with the agricultural teachers in the High Schools, we hold better institutes than we were able to hold before we worked with them." - W. W. Wilson, Bureau County.

"A Chinch Bug Survey was conducted in cooperation with J. H. Bigger, of the State Entomology Department during the week of February 19. A special letter and other publicity was sent out from the farm bureau office to advise farmers to burn bugs in winter quarters. It was found that the bugs are numerous enough in the south two-thirds of the county to probably cause serious damage to grain crops this year." - J. H. Lloyd, Hancock County.

More Eggs More Profit - "The flocks of the men who are co-operating in keeping poultry records show an increase in egg production in February over January. One flock increased in egg production 361 eggs per 100 birds and another increased 322 eggs per 100 birds. This increase is being caused by using better laying rations." - Bertram Abney, Jefferson County.

1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It is a summary of the work done and the results obtained.

2. The second part of the report deals with the work done in the various departments. It is a detailed account of the work done in each department and the results obtained.

3. The third part of the report deals with the work done in the various departments. It is a detailed account of the work done in each department and the results obtained.

4. The fourth part of the report deals with the work done in the various departments. It is a detailed account of the work done in each department and the results obtained.

5. The fifth part of the report deals with the work done in the various departments. It is a detailed account of the work done in each department and the results obtained.

6. The sixth part of the report deals with the work done in the various departments. It is a detailed account of the work done in each department and the results obtained.

7. The seventh part of the report deals with the work done in the various departments. It is a detailed account of the work done in each department and the results obtained.

The Extension Messenger

A series of brief notes from the Farm Advisers, College
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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

April 4, 1923

No. 14

Seven Years of Farm Accounts

"In 1916 the farm earnings on 90 farms in a continuous area in Tazewell and Woodford counties showed that on the average the farms made 7.03 per cent on the investment. Nineteen of these same farms which have kept farm records each year for the past seven year period made 7.09 percent on the investment in 1916.

Since that date the 19 farms have made some changes in organization and operation. The question is - has it paid to study the farm records and try to improve the organization of these farms? In 1922, the farm earnings on 99 farms in Woodford County, including the 19 that kept continuous records, was 3.58 per cent on an average investment of \$57,871.00, while the 19 made 4.72 per cent on the investment. In other words, the 19 farms that had most consistently worked at the job of improving their organization were .06 per cent better than the average in 1916 and 1.14 per cent better than the average in 1922, showing a net gain of 1.08 per cent over the average of all the farms or \$610 per farm when figured on the basis of an average valuation of \$56,488.00 per farm. A complete analysis of these records and the factors which made for success in farming should be available in the near future, but briefly it may be summed up as follows:

The factors which had most to do with the success of these farms were (1) good crop yields and crop rotations, (2) productive live stock that utilize a considerable part of the crops produced, (3) an economical sized farm, (4) efficient use of man and horse labor and (5) efficient use of capital and equipment." - H. C. M. Case, Dept. of Farm Organization and Management, U. of I.

Use of Window Display - "Our farm bureau office is on the first floor, and it has a nice large show window facing the street. In this window we always try to keep some sort of a window display. During the past month we have kept in the window some sprouted oats growing on a piece of moistened burlap. Above the sprouted oats we have the following poster - 'How about your chickens? Are they getting the required amount of green feed? It is easy. Step in and inquire.' The fresh green oats proved to be very attractive, and many people came and examined it and asked how it was made. As a result of this display many farmers are sprouting oats for their breeding pen of chickens, and I believe they will get a better hatch and stronger chicks because of it." - Alfred Tate, Monroe Co.

"We sent in orders for 20 cars of limestone in February. This is nearly as much as we used altogether last year. This comes as a result of a campaign to use more limestone and sweet clover. Sixty-five different farms are to receive the limestone. Generally enough is gotten to treat five acres. This will be seeded to sweet clover. We believe that 75 demonstrations with this great legume will be of inestimable value." - F. E. Fuller, Marshall-Putnam County.

Soy Beans vs. Cottonseed Meal for Two Year Old Steers. "Forty head of fairly fleshy, choice steers, with average initial weight of 1100 lbs. were fed 90 days by the Department of Animal Husbandry to study the relative value of soy beans and cottonseed meal for fattening steers. The beans and the meal were fed at the rate of one pound to six pounds of shelled corn. This is a larger proportion of nitrogenous concentrate than would ordinarily be fed under corn belt conditions, but was used in this test to magnify the effects of the supplement and to secure significant differences. While a summary of the test shows that the steers receiving cottonseed meal had a better appetite and made more rapid gains than the steers in any of the other lots, the results of the test are not considered by the department as conclusive evidence of the relative value of these feeds.

	LOT I	LOT II	LOT III	LOT IV
	Shelled Corn, Cottonseed Meal, Silage.	Shelled Corn, Ground Soy Beans, Silage	Shelled Corn, Soy Bean Oil Meal, Silage.	Shelled Corn, Soy Bean Oil Meal, Soy Bean Straw.
Average Initial Weight	1116.5	1103.5	1094.0	1130.0
Average Daily Gain	3.938	3.322	3.50	3.507
Average Daily Feed Consumed:.				
Shelled Corn	22.108	18.532	19.731	20.499
Cottonseed Meal	3.685	—	—	—
Soy Bean Oil Meal	—	—	3.270	3.417
Ground Soy Beans	—	3.089	—	—
Silage	24.502	23.702	23.828	—
Soy Bean Straw	—	—	—	11.403
Feed Cost of Gains per cwt...	\$9.20	\$8.75	\$9.26	\$8.98
Actual Selling Price in Chgo.	\$11.25	\$10.60	\$10.85	\$10.75
Pork Produced per Steer	40.1	44.3	33.1	38.7
Margin per Steer (Pork and Labor not included)	\$19.04	\$10.56	\$13.14	\$11.01

Corn 56¢, soy beans \$1.20 a bu.; silage \$4.00, cottonseed meal \$50.00, soy bean oil meal \$48.00, soy bean straw \$5.00 a ton. Initial cost of feeders in lots \$8.85.

The steers fed soy bean oil meal, made by the old process method and containing 6.96 per cent fat, did not eat as heartily as the cottonseed meal lot and did not make as rapid gains. However, a study of the detailed records shows that these steers (LOT III) made almost as rapid gains and slightly less expensive gains than the cottonseed meal lot up to within one week of the close of the feeding period. Six days before the close of the test this lot went off feed and lost enough in weight and appearance to materially affect their selling price.

The steers in LOT II which received ground soy beans had the poorest appetites of any of the cattle on test and any attempt to push the consumption of concentrates in that lot up to the level of that in the other lots invariably had a tendency to throw the steers off feed. The steers in this lot were very laxative thruout the experiment. The cost of gain in the ground soy bean lot was slightly less than the cost in other lots.

When mixed with the grain, threshed soy bean straw made a fairly satisfactory roughage (LOT IV) for these large, mature steers. When the soy bean straw was fed in a bunk, separately from the concentrates, the steers refused to eat and scoured badly." - E. P. Rusk, Animal Husbandry Department.

The 1923 Spray Program. "It is assured that the dormant spray of oil emulsion or lime sulfur has already been applied for the control of scale and aphid. If the work has been done thoroughly we need not consider the scale further. There may be some aphid present following the dormant spray, and if numerous nicotine sulfate at the rate of one pint in 100 gallons of spray should be used in the cluster bud application. Other materials used in this spray are lime sulfur solution at the rate of one gallon of commercial solution with 40 gallons of water, and lead arsenate at the rate of one pound in 50 gallons of spray. Every part of the tree should be coated with the material, which should be applied when the buds are showing pink, but need not be completed until a short time before the first flower opens. In extreme cases where apple scab has been abundant 3-4-50 Bordeaux may be substituted for the lime sulfur, altho some varieties of fruit may be russeted by the Bordeaux. If desired, nicotine sulfate may be combined with Bordeaux and lead arsenate.

If the grower has not been able to complete the dormant spray, and is using lubricating oil emulsion, or can secure it locally, the combination of oil emulsion, Bordeaux, and lead arsenate may apparently be used with safety in the cluster bud spray. Under no circumstances should the oil emulsion be used with lime sulfur.

The cluster bud spray is applied primarily for the control of apple scab, but is partially effective in the control of curculio. In well cared for orchards it is sufficient to keep the spring canker worm in check.

The first summer spray on peaches will occur about ten days following the fall of the bloom when the shucks are being pushed off. This is the most important spray for the curculio, and should consist of lead arsenate and freshly slaked lump lime at the rate of 1 pound of lead arsenate and 2 pounds of lime in 50 gallons of water. If only hydrated lime is available, use 3 pounds." - W. S. Brock, Dept. of Hort.

Community Live Stock Feeding Schools. "A series of five feeding schools have been held during the month. A black board was used and mimeographed material giving suggested rations and per cents of digestible nutrients in different feed was distributed. A method of figuring the cost per pound of protein was shown and those present were asked to figure the relative costs in the common feeds. The requirements for an ideal ration were discussed. From the estimated average yield from different crops, the protein produced per acre was figured. This led up to the value of limestone in the growing of legumes. These meetings were used in this way to develop the limestone idea and increase the interest in the Cooperative Limestone Grinding Association which we expect to assist in organizing soon." - C. C. Burns, Jo Davies County.

Proper Feed Management Pays! "A community meeting was held at Mr. El. Garber's farm to demonstrate the value of good care and feeding a balanced ration to his herd of dairy cattle. This year the net returns on his small herd of 10 cows was \$243 greater than last year. Last year his highest producing cow made 9021 pounds of milk and 356 pounds of fat. This year in 10 months she has produced 11,890 lbs. of milk and 596 pounds of fat. Feeding for production, kind treatment, and regularity in management are responsible." - C. C. Burns, Jo Davies County.

Some Averages. "Mr. G. E. Farrell with the States Relations Service of the U. S. D. A. says that the farmer and his family remain on the farm an average of twenty years. The average number of these families leaving the farm in each county each year is 120, thereby requiring an equal number of beginners to take their places. This new farmer usually brings a wife with him, which means 240 people are coming to each county each year to begin a 20 year life on the farm. Has the club program of your county provided for its duty in preparing 240 young people for life on the farms of your county, which young people will be your future Farm and Home Bureau members and officers?" - E. I. Pilchard, Club Work.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

April 11, 1923

No. 15

Live Corn
 \ /
Hogs Eat
Dead / \
 Profits

"The time of the year is at hand when shippers must use caution in loading stock, especially hogs, if losses are to be kept at a minimum. Hogs loaded during April should not be crowded, even if the weather seems to

justify it. A few hours can bring forth high temperature and moisture laden atmosphere which may suffocate a few head. May and June will usher in the periods of extreme hot weather. During this period extra care must be used to avoid heavy losses. Here are a few suggestions, which if followed, will materially assist in reducing shipping losses:

1. In ordering a car for shipping hogs insist upon getting one that is in good condition and clean.
2. Bed the car with sand, cinders, clay or fine straw.
3. Before loading, wet the bedding and interior of car thoroly.
4. Give only very light feed of grain before starting to the loading chute.
5. Deliver the hogs at the shipping station in plenty of time to allow them to become rested and cool before loading.
6. Do not load the car more than one hour before train is to depart.
7. Load slowly, avoid excitement, and overheating the animals. Do not beat or bruise.
8. In extreme hot weather do not load to exceed 14,000 pounds fat hogs and 16,000 stock hogs in a standard 36 foot car.
9. Use about 300 pounds of ice on the floor of the car, or suspend in gunny sacks from top of the car.
10. Pen off in a corner animals which persist in causing a disturbance, i.e., vicious sows, stags, etc.
11. Report inattention or neglect promptly to the Superintendent of the Division on which your shipment originates.
12. Never throw water directly upon the hogs after they become heated. Instead, run it on the floor of car under the hogs." - W. H. S.

Look Before You Load - "Inspection of 700 cars of live stock arriving at 7 of the large markets by supervisors of the Packers and Stockyards Administration, U. S. D. A., reveals defects in the cars which may cause crippled animals or even death. Of the cars inspected 7 had holes in the floor, 91 had projecting nails in the walls, 88 had cleats that might and probably did cause bruises, and 82 were without bedding." - E. I. Pilchard.

Why Not More Pure Bred Dairy Heifer Clubs? - "Considerable time has been given this month to a pure bred dairy heifer project. Several meetings have been held and some publicity given the subject. No sensational propaganda of any kind has been indulged in. Right now prospects are good for placing about 30 of these heifers." - C. W. McWilliams, Randolph County.



Don't Pasture Too Early - "On March 30 while riding 28 miles thru central Illinois and looking from only one side of the train, 20 herds of dairy cows, averaging 9 head per herd, were observed out on bluegrass pasture. The grass had scarcely commenced to turn green, and cows should not have been turned on it for five or six weeks.

Three weeks earlier, on March 8, while on a trip thru Virginia to attend a meeting of the State Dairyman's Association, the writer saw for a distance of 125 miles in the mountain valleys of western Virginia, practically all dairy cows turned out to pasture, altho the grass had not even commenced to turn green, and there was nothing for them to eat but dead grass and weeds that had weathered all winter, and lost nearly all food value.

Wherever one passes thru a dairy district in the early spring, some herds will be seen out on pasture where the grass is far too short and unfit to do the cows any good. This practice is often due to short feed supply, but turning out early only makes a bad matter worse because the grass will be stunted for the whole season and the pasture cut short in fly time when most needed. The production of feed per acre increases in almost direct proportion to the amount of leaf surface thru which the plant breathes, and close pasturing, therefore, will greatly reduce the season's growth." - Wilber J. Fraser, Dairy Farming U. of I.

Farm Adviser and Vocational Teacher Cooperate - "We are cooperating with the Gurnee High School in the matter of keeping farm accounts. A number of the boys in the Agricultural class will keep farm accounts on their father's farms. Mr. Thompson, the Agricultural teacher there having got the boys started thru the assistance of Mr. P. L. Donovan." - J. J. Doerschuk, Lake County.

"As a result of a conference with Assistant State Leader Mr. H. F. Wolter, at which three Smith-Hughes teachers were in attendance, a program for the year was formulated to be carried out by the three teachers acting as local leaders in conjunction with this office. Twenty-six poultry club members are already enrolled as well as 16 sow and litter club members with a prospect for as many more in the near future." - H. F. Crosby, Crawford County.

New Method of Saving the Chickens - "Some time ago the farm bureau offered a reward for information and arrest of chicken thieves and four thieves have been apprehended, upon which the farm bureau will be called upon to pay two rewards. This is having its effects upon the county and is creating considerable interest. I believe it is a valuable piece of work as thieves have been very active in the county during the past season." - Otis Kercher, Pike County.

Getting Poultry Breeders Interested - "The poultry club project this year consists of each boy or girl taking one or more settings of eggs, hatching the chicks and raising them to maturity to be exhibited at the Farmers' Institute. The eggs are being furnished in the most part by purebred breeders of the county who require that a pullet be returned for each setting of eggs furnished. There will be 100 members in this project this year." - Enos Waters, Edgar County.

Getting Interest in Better Seed - "The first utility corn show for Gallatin county held on March 21 was a decided success. There were 108 entries of corn on display and the quality of the exhibits and the interest shown at the meeting proved beyond a doubt that this was a type of work that will bear fruit towards better seed corn. The interest at the corn culling meetings this year is more than 50% better than last year. Ten seed corn culling demonstrations have been held during this month with a total attendance of 358. We have on file nearly 20 farm calls for assistance in seed corn selection. Six corn disease projects have been asked for by farmers in as many communities of the county." - C. W. Simpson, Gallatin County.

"The Value of Legume Inoculation is quite generally known. Some doubt exists, however, in the minds of many people concerning the ability of the organisms of one legume to inoculate plants in another species. Can I use soil on which cowpeas grew successfully for soybean inoculation? Will red clover bacteria be satisfactory for sweet clover and how can nodule development be secured on garden peas? These, and similar questions, are answered by the Experiment Station continuously. The following grouping indicates the way in which some of our common legumes cross-inoculate. Any member of a specific group will inoculate any other in the same group, but will not affect those in a different group.

<u>Group I</u>	<u>Group II</u>	<u>Group III</u>	<u>Group IV</u>	<u>Group V</u>
Red clover	White sweet clover	Cowpea	Soybean	Navy bean
Alsike clover	Yellow sweet clover	Peanut		Garden bean
Crimson clover	Alfalfa	Japan clover		
White clover	Bur clover	Velvet bean		
		Lima bean		

It may be noted that no legume has yet been found which cross-inoculates with the soybeans.

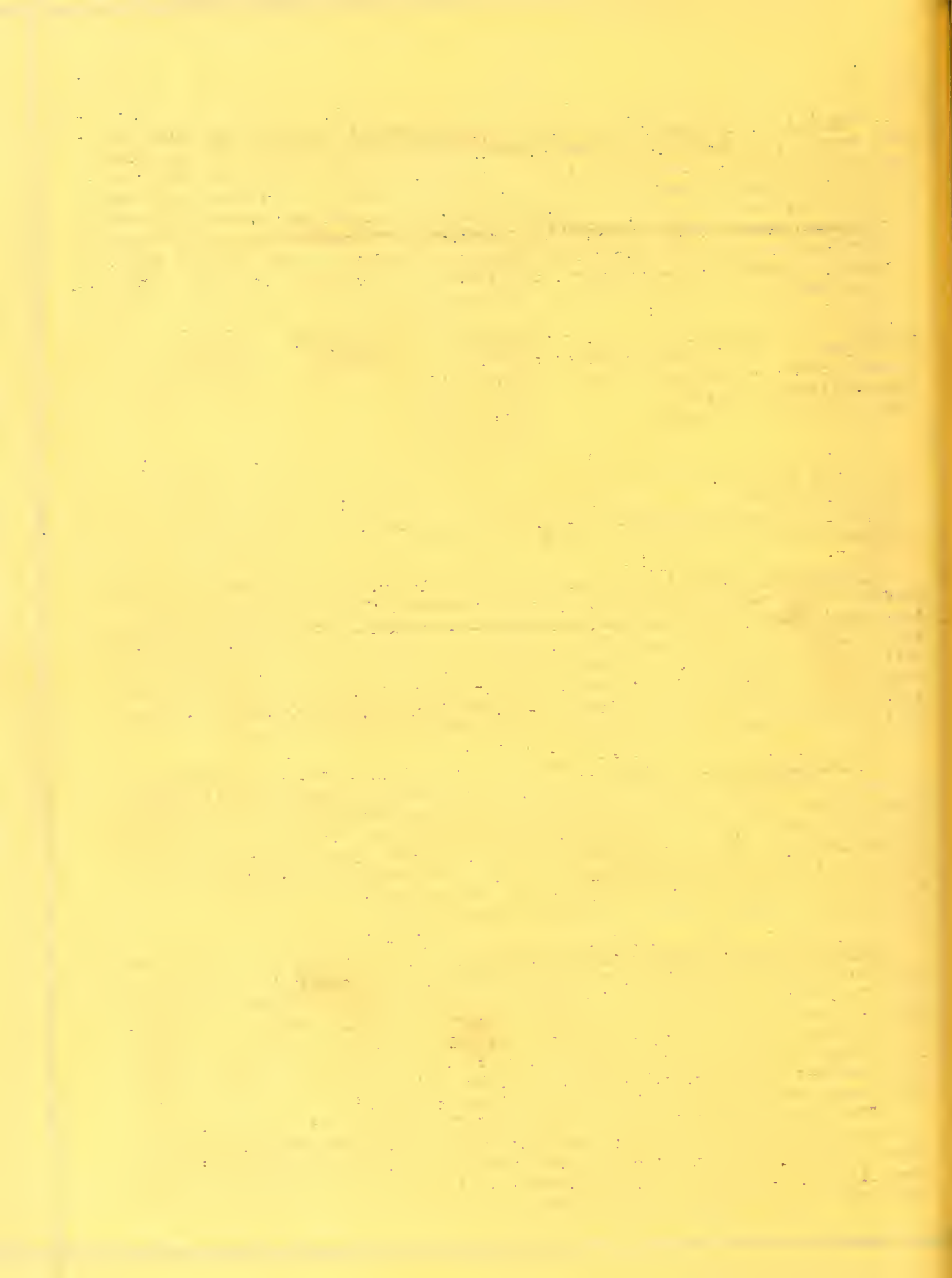
More detailed information on this phase of inoculation is available in bulletin 202 of this station." - O. H. Sears, Ass't. Prof. Soil Fertility, U. of I.

Test before Seeding! - "It is developing this year that the acreage of red clover is generally being replaced by sweet clover. This is due to the fact that sweet clover is growing in popularity and to the difference in the price of seed. However, a great many of the farmers are doing this without knowing the difference in limestone requirements and many of them are going to waste their seed. We have tested a lot of samples for acidity the past month and are making recommendations thru the county papers that all farmers should test their soil before seeding sweet clover." - P. E. Johnston, Woodford County.

Good Way to Increase Yields - "Helped several men treat their oats for smut. We used a small bucket spray to apply the formaldehyde solution and it worked like a charm. One man can operate the spray, while another shovels the oats. 80 bushels were treated in this manner in one hour at a cost of 50¢ for 1 pint of formaldehyde. It is reasonable to assume, judging from data I have, that these treated oats will yield $2\frac{1}{2}$ bushel per acre more than untreated oats. On 40 acres this means 100 bushels more oats for the investment of 50¢, 2 hours' time and some brains." - A. E. Davidson, Brown County.

Good Method of Cooperation with County Fair - "The committee on club work consisting of five representatives from different sections of the county met with the farm adviser, March 23, for the purpose of revising the classes and making plans for the coming Junior Live Stock Contest in Iroquois county. The climax of this work is the show at the county fair, the management of which is cooperating by way of giving liberal premiums for all the classes. In addition to the fair premiums the breeders of good live stock of the county are giving premiums for records and stories." - L. W. Wise, Iroquois County.

"The adviser met with the Anna Fair Association's Board of Directors and presented the material previously drafted for the fair premium list. The fair board is ready and willing to cooperate with the farm bureau promoting the agricultural development of Union county, particularly that of boys' and girls' club work." - L. S. Foote, Union County.



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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

April 18, 1923

No. 16

Soybean Varieties

"Soybean variety names have been badly confused for a number of years. A standard variety in one state might be known by an entirely different name in another state. This naturally led to increased confusion and general dissatisfaction over the nomenclature of our more common varieties. Before any definite suggestions regarding re-naming could be made, it was necessary to secure representative lots of seed from the different states and grow the strains side by side for comparisons and study.

These varietal and type studies have been running for several years at Arlington, Virginia. During the past three years similar tests have been made in Iowa, Indiana, Missouri, Ohio and Illinois. The results were conclusive. There seemed no doubt about the unnecessary duplication of names.

This committee whose personnel included representatives of the U. S. D. A. and eight central western states, namely, Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota, Iowa, and Missouri, made the following recommendations regarding names of soybean varieties. The name adopted by the committee is given first, followed by the several names under which the variety was found growing.

MIDWEST for Medium Yellow, Hollybrook, Mongol, Perley Mongol and Roosevelt

PEKING for Peking, Sable, and Essex

EBONY for Ebony and Black Beauty

WISCONSIN BLACK for Pedigreed Black, Wisconsin Pedigreed Black, Early Wisconsin Black, Wisconsin Early Black

ITO SAN for Ito San, Medium Early Yellow, Early Yellow

The committee further recommended that 'any new name to be given a variety' should be first submitted to the chairman of the Committee on Nomenclature in order that there will not be a duplication of names -- in addition, seed and a description of the plant should be submitted to learn if the variety in question is a new sort.

In accordance with the above recommendation, the Ohio Experiment Station has recently given a name to the Ohio 9035 soybean, which has been a very commonly grown variety in this state. The name that they have suggested is Hamilton." - J. C. Hackleman, Crops Extension.

Demonstrating Value of Cow Testing Work - "A community meeting was held at Louis Boldt's dairy barn to demonstrate the value of balanced feed and good care for the dairy herd. This herd, the second year it was in the Cow Testing Association, produced an increase of 879.8 pounds of milk per cow, 50.6 pounds of butterfat and \$17.73 more profit per cow than the first year it was in the Association. The feed cost per 100 pounds of milk was decreased 6 cents and the feed cost for 1 pound of fat was decreased 3.5 cents. The returns for \$1 worth of feed fed to the herd was increased 22 cents." - C. C. Burns, Jo Daviess County.



Is Your Tractor Carburetor Adjustment Correct? - "Few tractor or automobile owners realize that several gallons of fuel will be wasted daily if the carburetor is adjusted for too rich a mixture. The mixture is never too lean because the motor will not run satisfactorily or develop its power. There is very seldom any adjustment on tractor carburetors for changing the amount of air that goes in to the carburetor so that the fuel needle valve is the only means of making the mixture rich or lean. A rich mixture is one in which the proportion of gasoline or kerosene abnormally exceeds the amount of air. A rich mixture causes the engine to "lope" or run uneven and sluggish and results in the following troubles:

Overheating due to slow burning of the fuel; excessive waste of fuel; formation of carbon which causes preignition or carbon knocking and fouling of plugs, giving poor ignition; thinning of the oil in the crank case which results in poor lubrication, loss of compression, loss of power and hard starting.

A mixture is lean when it contains too much air and not enough fuel. Too lean a mixture will cause the engine to misfire when running and is usually accompanied by a popping sound at the exhaust and in the carburetor.

Proceed to adjust carburetor as follows: turn down needle valve until it seats lightly, then open about $1\frac{1}{2}$ turns. Start the motor, advance the spark and allow it to warm up thoroly. If black smoke comes from the exhaust turn down needle valve a little. When the motor has warmed up, close the throttle lever about two thirds and turn down the needle valve until the engine begins to pop and misfire, then open needle valve about $1/16$ of a turn or until the popping stops. Now close the throttle lever and see if engine will pick up to full speed without misfiring when the throttle is opened wide for a few seconds. If not, open the needle valve a notch or two and try again. The engine should pick up speed without missing. Open throttle about halfway and try closing the needle valve a little, if it slows down the speed of the engine, open it slightly until the speed picks up again. It is always best to try closing the needle valve down slightly when the engine is under load. This setting will be correct for all loads on the engine. In cold weather use the chocker for starting until the motor warms up, but if the engine will not operate satisfactorily, the needle valve can be opened slightly. Never allow an engine to run at excessive speed when not pulling a load." - R. I. Shawl, Dept. of Farm Mechanics, U. of I.

How Much Does a Cow Eat? - "Records obtained in Illinois cow testing associations show that a good dairy cow consumes approximately 5800 pounds of silage, 1900 pounds of hay, and 2800 pounds of grain during the year. In addition she is pastured five and one-half months.

The dairy farmer would do well to keep those figures in mind when planning this year's crops. Plenty of good roughage is of prime importance. The dairyman with a good supply of legume hay and silage available thruout the year has the major portion of his feeding problems solved. Good alfalfa hay heads the list of legume hays for dairy cattle. If alfalfa is not available, soybean, clover, or cow pea hay should be fed. Soybeans can be seeded this spring and harvested for a hay crop. In Southern Illinois cow peas can also be used. If the supply of roughage did not last thruout the feeding period this winter the fact should be kept in mind and plans made to prevent a similar occurrence.

A small amount of protein concentrate added to the farm grown grains such as corn, barley and oats, will make a good grain ration. Careful planning of crops on dairy farms will reduce the feed cost to a minimum." - C. S. Rhode, Dairy Dept.

New Advisers - Mr. F. W. Wascher began work as farm adviser in Effingham County April 1, taking the place of Mr. J. L. Gardner. Mr. Wascher was graduated from the University of Illinois in 1911. Since that time he has been farming in Missouri.

Mr. W. B. Bunn, who has been assistant adviser in McDonough county, has accepted the position of farm adviser in Richland county and began work April 16th.

Watch for Apple Blotch on Nursery Stock - "The disease known as apple blotch is becoming a greater menace each year to the orchards of Illinois. While a few years ago it was found only in isolated orchards in the northern and central portions of the state, today it is quite general in distribution. This is due to the fact that the disease has been introduced into many new localities where it has started a new focus of infection. Since the disease spreads rather slowly from tree to tree and from orchard to orchard it is evident that in most cases the disease has been introduced on nursery stock. Apple growers who are planting young orchards or who have recently planted them should scrutinize their young trees very carefully to see that they are free of blotch cankers. Nurserymen should also make every effort to keep their nursery rows free of this disease. It has been found that a great many seedling apple trees used for grafting and budding by nurserymen are diseased. This is especially true when the stock comes from Oklahoma and Kansas.

Growers should reject all trees showing blotch cankers and should inspect their young orchards before growth starts this spring in order to determine the amount of blotch on these young trees. Whenever possible the diseased limbs should be cut off. If the orchard is badly infected the sprays ordinarily applied for blotch control should be applied conscientiously during the summer. This will prevent further spread of the disease to the young shoots. The first four years of an orchard is the period when blotch gets a real start and after the trees begin to bear the grower finds great difficulty in controlling the disease. Orchardists know better than to omit their scale sprays until the trees come into bearing because the scales accumulate to such an extent that the fight against them is lost. In the same manner the blotch cankers accumulate year after year and when bearing time comes blotch is there to stay." - H. W. Anderson, Dept. of Horticulture.

Keeping in Touch With Ton Litter Contestants - "The Get To-Gether Meeting of the 78 members of the Champaign County Section of the Illinois Ton-Litter Club held at the farm bureau office, Saturday afternoon, April 14, was well attended. The purpose of the meeting was to discuss the problems confronting the swine feeders at this time and to offer suggestions on feeding and care which would assist in the development of litters to a ton weight in six months.

The ton litter movement has met with great favor in the county. The enrollments have come without any special solicitation from men who are breeders of purebred hogs, those who raise hogs for pork, boys in high school who only own one sow and litter and one boy in the eighth grade. Not only this, but different breeds of hogs raised in the county are all represented with from one to ten litters of ten or more pigs.

It is the intention of the committee to keep in close touch with the enrolled members at all times by letters or personal visits and they are planning a tour the first of June to visit as many of the litters as can be seen in a day." J. E. Johnson, Champaign County.

Colts Add to Value of Work Stock - "Figures compiled from records collected in De Kalb county by the U. S. D. A. during the fiscal year beginning June 1921 and ending June 1922 show that on 45 farms on which no colts were raised there was a depreciation in value of horses of \$87.20 per farm. On 36 farms in the same county where colts were raised, there was no depreciation but an increase in value of \$27.08 per farm. The number of colts two years old or under on these farms averaged two head; for the 81 farms studied, the average was less than one colt per farm. The figures indicate that no extra horses were required on the farms raising colts since the number of cultivated acres per horse on these farms was 21.9 and where no colts were raised the average was 22.3 acres per horse." - J. H. Knox and C. C. Gates, U. of I.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

April 35, 1935

No. 17

Bring Mailing Lists Up To Date

"Farm bureau mailing lists present a real problem in maintenance. To keep a list free of 'dead' names means eternal vigilance and care. Impossible as it seems names are retained on mailing lists for years after they become 'dead'. Each name of this kind represents a loss in postage, printed matter, labor and overhead, to say nothing of the annoyance to post office departments and to the recipients of mail addressed to persons who have been gone for years.

Farm bureau mailing lists are made up of members chiefly. In addition lists of county and state officials, newspapers, and miscellaneous groups are represented. These lists are in a state of flux — they change constantly by additions or by removals, changes of status, deaths, etc.

These shifting groups can be kept alive in a number of ways. Returned mail from post offices and the U. S. D. A. furnish a means of checking. Announcements of deaths, and changes of various kinds which appear in newspapers, farm papers, letters, etc., and which might affect the list should be checked over promptly. If the mailing list is kept on cards changes can be made most easily and quickly. In addition, the entire list may be corrected by sending out return post cards at least once in two years. However, ordinary checking, and an eagle eye will do a lot to keep a list alive especially where it is as small as the farm bureau lists and where most of the persons on the list are personally known.

Office secretaries should get out the farm bureau mailing list and check over the names. While checking first cut off the ones which have moved, gone into new work, and in other ways should no longer be represented on the list. Then with a live list as a starting place practise that eternal vigilance which will keep it up to date." — Rose Doris Briem.

Measure Your Milk Cows — "The number of forty pound cows can be materially increased by following the suggestions of the cow testing association. The Boone County Cow Testing Association gave the following information for the first quarter of 1935:

January	55	cows	produced	40-pounds	of	butter	fat	or	more
February	74	"	"	"	"	"	"	"	"
March	161	"	"	"	"	"	"	"	"

The increase in the number of 40-pound cows is due to the fact that a number of boarder cows were sold and more care was used in balancing the ration." — J. C. Kline, Boone County.

Demonstration Influences Cropping Plans - "The soybeans grown upon our demonstration plot near Rome were threshed and yielded at the following rate:

A. K. 17 bushels per acre; Manchu 13.1; Virginians 13.1; Pekin 14.6; Mid West 13.2; Wea 12; Wilson five's 9.8.

These beans were grown upon a type of sandy loam soil which is being summer fallowed and cropped every other year. We inspected the beans Friday morning and did not expect them to be ready to harvest until Monday. The hot winds on Saturday and Sunday dried the Manchu and Wea beans so rapidly that a few shattered. We harvested the beans early Monday morning. A heavy dew prevented further shattering. This demonstration has proven of immense interest, especially since the sweet corn factory formerly located at Chillicothe is being moved to another part of the county.

This means the re-planning of the cropping system of about 1200 acres in sweet corn each year. This land is very sandy and also acid and will not grow legumes successfully without lime. The farmers have followed the practice of plowing under the green corn stalks and seeding the land to winter wheat. I believe that we will be able to work the soybeans in the rotation for hay as a soil builder and for seed." - W. E. Hedgcock, Peoria County.

Ton Litter Suggestions - "Careful attention and proper feeding must be given the pigs entered in the Ton Litter Club if they reach the weight of a ton at six months of age.

The young pigs should be fed in a creep before weaning. Shelled corn at all times and a slop feed two or three times daily before weaning will bring pigs to weaning time at eight to ten weeks of age so that they will not miss their dams.

In the early part of the feeding period give the young pigs all the milk they will drink and if available it can be full fed to advantage until the pigs weigh 150 pounds when the quantity should be limited. Amounts of milk above one gallon per head daily are given at an added expense. As the pigs grow during the summer gradual increases in the ration should be made. Make the pigs clean up their feed at each feeding. Pigs that do not clean up their feed during hot weather will not make the best gains.

The ration should, in most cases, consist of corn, milk or tankage, and oats or wheat middlings. Other feeds may be used in small quantities to increase the daily food consumption. Corn is the cheapest, most palatable grain and should be full fed at most all times with the proper amounts of supplemental feeds. Milk when available on the farm is better to use than tankage because increased gains can be secured by its use.

One-third to one-half pound of tankage is enough for full feeding. Oats, ground and sifted, soaked or scalded, or flour wheat middlings (not brown shorts) when added to the extent of one to two pounds daily per pig, will increase the rate of gain but will not make the gains any cheaper. Good fresh pasture, preferably alfalfa, clover or rape, should be used in addition to the above ration. A liberal supply of fresh water at all times and protection from the hot sun will also assist in securing the best results." - J. B. Rice, Animal Husbandry Department, U. of I.

Cost of Horse Labor in 1932 - "Horse labor costs may be kept down by economical feeding and good management of the horses and by securing a large number of hours of productive labor from each work horse kept.

The average cost of keeping a work horse in 1932 on ten Champaign and Piatt county farms on which detailed cost records were kept was \$103.10. The average cost per hour of horse labor was 15 cents or 2 cents lower than in 1921. This reduction in cost per hour was due mainly to the greater number of hours worked by each horse. The average number of hours worked per horse in 1921 was 715 hours while in 1932 they worked 775 hours.

The rate per hour on the different farms varied from 11 cents to 24.5 cents. The greater part of this variation is explained by the fact that on the farm with the high horse labor rate the horses were worked only 372 hours each per year, while on the farm with the low rate they were worked 975 hours. Again, the first farm worked only 12 crop acres per horse while the latter worked 27 crop acres per horse.

The following table gives the average cost of each item making up the total cost of keeping a work horse for the year and the percentage which each item makes of the total:

	<u>Feed</u>	<u>Shelter</u>	<u>Dep.</u>	<u>Int.</u>	<u>Harness</u>	<u>Labor</u>	<u>Misc.</u>	<u>Total</u>
Cost	\$64.20	\$4.46	\$8.50	\$5.72	\$4.51	\$13.25	\$2.47	\$103.10
Percentage of total	62.3	4.21	8.24	5.55	4.4	12.9	2.4	100

Each horse received on an average the following amounts of feeds:

	<u>Corn</u>	<u>Oats</u>	<u>Hay</u>	<u>Straw</u>	<u>Pasture</u>
Amount	40 bu.	20 bu.	3589#	1660#	195 days

C. A. Bonnen, Dept. Farm Org. and Mgt., U. of I.

Where to Secure Standard Bred Poultry Information - "There reliable information may be obtained on the qualities and characteristics of standard bred poultry is the subject of a good many inquiries to the Poultry Division. The only universally accepted source of such information is the American Standard of Perfection published by the American Poultry Association. It is revised once in eight years and the year 1923 is a revision year. This book contains detailed descriptions of the shape and color of each section of male and female of every 'standard' variety. It is profusely illustrated with cuts of ideal specimens. Copies of the new 1923 edition may be obtained from the publishers of any poultry journal, such as the American Poultry Journal, 523 Plymouth Court, Chicago, or Poultry Tribune, Mt. Morris, Illinois.

Popular descriptions and photographic reproductions of representative specimens of many standard varieties are given in the following U. S. D. A. Farmers' Bulletins:

- 806 - The American Class
- 898 - The Mediterranean and Continental Classes
- 1052 - The Asiatic, English and French Classes
- 1231 - Ornamental Breeds and Varieties
- 1251 - The Bantam Breeds and Varieties."

L. E. Card, Poultry Division, U. of I.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

No. 18

Annual Legumes Where Clover Fails

"It has long been the policy on the soil experiment fields in various parts of the state to substitute soybeans as a legume crop when the clover fails. Previous to about 1913, cowpeas were used as a substitute crop on Southern Illinois fields, but since some of the better varieties of soybeans have come into use, these have been given the preference. The cowpea seems to make a better yield on untreated land, while on treated land the soybean apparently has the advantage. Since sweet clover is being generally used on Southern Illinois experiment fields, there is scarcely any need for a substitute crop because this clover seldom fails.

The following table shows a four year average of soybean hay and seed yields obtained when soybeans were substituted for red and alsike clovers in a rotation of wheat, corn, oats and clover:

<u>Soil Treatment</u>		<u>Dixon</u>	<u>Urbana</u>	<u>Ewing</u>	<u>Raleigh</u>
No treatment	Soybean hay	2920 lbs.	3540 lbs.	800 lbs.	1300 lbs.
Manure, lime, rock phosphate	" "	3940 "	3860 "	2500 "	2480 "
No treatment	Soybean seed	11.8 bu.	*21.2 bu.	2.3 bu.	2.2 bu.
Residues, lime, rock phosphate	" "	13.3 "	22.2 "	8.7 "	6.8 "

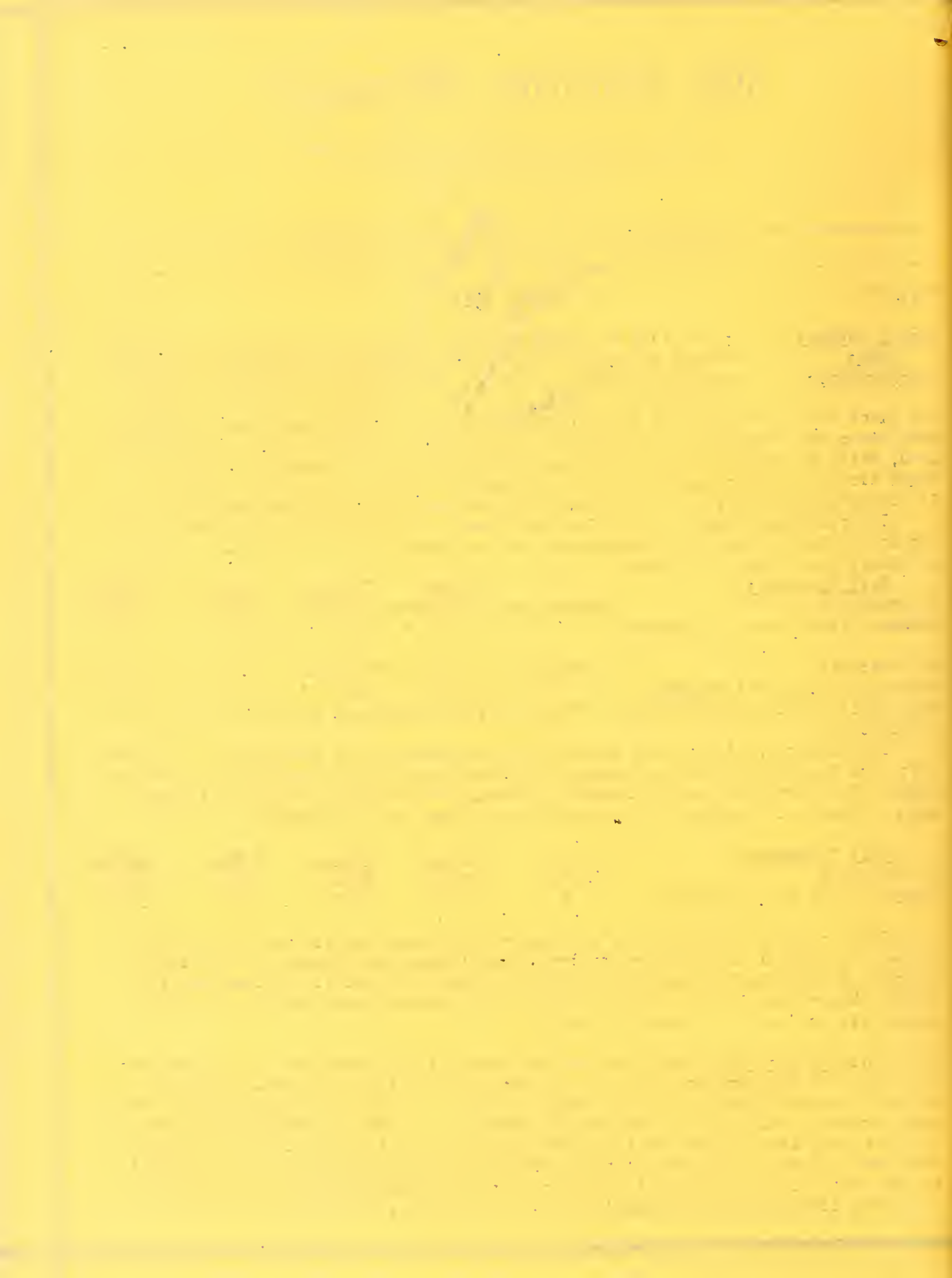
*The yield of 21.2 bushels on the Urbana Field was obtained on land treated with residues only.

The yields of clover (red and alsike) are given in the table below. All results are four year averages, except the Ewing Field which is given on a three year basis. Red clover is used at Dixon and Urbana, while alsike was used at Ewing and two years at Raleigh. The remaining two years were red clover.

<u>Soil Treatment</u>		<u>Dixon</u>	<u>Urbana</u>	<u>Ewing</u>	<u>Raleigh</u>
No treatment	Clover	3840	3660	500	460
Manure, lime, rock phosphate	"	5560	6040	2440	3300

These results indicate that the clover makes considerable more hay than the soybean on Central and Northern Illinois land (Dixon and Urbana). In Southern Illinois (Ewing and Raleigh) the soybean on untreated land is superior in yield to the clover and gives on treated land a yield almost equal to that of red or alsike clover." - H. J. Snider, U. of I.

"Only 28 more days until June 1, the official date for club members to start their work in the pure bred gilt, fat barrow and fat lamb projects. Animals should be secured soon after the middle of May so as to become accustomed to their new quarters. Weighing the animals and starting the feed records should take place on June 1st. Every county leader should see that his members are supplied with record books and subject matter material. This material will be furnished by the state office on request. Copies of the enrollment should be forwarded to the state office as soon as complete." - H. F. Wolter, Club Work.



Join the University Club Tour June 22 - "Members of the boys' and girls' clubs and their leaders are urged to join the club tour and visit the University Friday, June 22. A full day of pleasure and profit is promised. Make your plans now - detailed program will be issued soon."

The Calyx Spray - "The calyx spray is applied to apple trees primarily to control codling moth and apple scab. To be entirely effective against either the application should be complete within four days after petals fall, which makes it necessary for commercial orchardists to begin spraying when one-half to three-quarters of the petals have fallen. The materials to use in all sections are lime sulfur ($1\frac{1}{4}$ gallons liquid or 4 pounds dry lime sulfur) plus 1 pound lead arsenate in 50 gallons of water. It is only necessary to wet the leaves and fruit clusters, but trees should be sprayed even if there was no bloom in order to control the scab, which often results in partial defoliation. Bordeaux mixture should not be used at this time, because the fruit may be seriously russeted, and in some cases the foliage caused to turn yellow and drop. The first spray to peaches is made about 10 days after the petals fall when the shucks are being pushed off of the developing fruits. Since the application is made for the control of curculio, only lead arsenate and lime are used. The dilution is $1\frac{1}{2}$ pounds lead arsenate plus 2 pounds freshly slaked lump lime in 50 gallons of spray. If lump lime cannot be procured, use 3 pounds of hydrated lime." - W. S. Brock, U. of I.

Get Your Chinch-Bug Barriers Ready - "A close examination of the wheat and other small grain fields made from May 10 to the 25 will show whether chinch-bugs are going to cause damage this season. Look in a number of fields and if the bugs will average one or more per plant of wheat look out for trouble. Arrangements should be made at once for securing a supply of materials for making chinch-bug barriers. These materials should not be ordered now but one should be sure that they can be secured on short notice when needed.

The best grades of creosote for chinch-bug barriers, are those with a high naphthalene content. This grade of creosote will probably cost two or three cents more per gallon than last year.

If a good grade of coal tar can be secured locally, it may be advisable to use this in place of creosote.

Remember narrow strips of soybeans, cowpeas, or clover, are of no value in stopping chinch-bug migrations. Also that chinch-bug resistant corns are easily killed by the first brood bugs moving out of small grain fields and must be protected by barriers.

A circular giving full directions for making chinch-bug barriers can be secured from the Experiment Station." - W. P. Flint, U. of I.

Book on Marketing Live Stock - "The American Live Stock Market - How It Functions", is the title of a volume by Arthur C. Davenport, of Chicago, Secretary-Treasurer of the Chicago Daily Drivers' Journal. The book gives a history of the American market showing the effect of transportation facilities in developing our present markets. The factors that make a market such as the Stock Yard Companies, Commission Firms, Packing Companies, Order Buyers, Speculators, Traders, Banking Houses, Market Papers, are listed and a separate discussion given of each. Considerable space is given to the classification and grading of the different kinds of live stock and the methods used in reporting the prices in daily market journals. The author has confined his efforts to a description of market methods in actual practice pointing out the various features of the present system without criticism." - W. H. S.

Soybeans Make Good Showing - "Soybeans as a supplement to corn in fattening steers made a good showing in comparison with cottonseed meal in this year's cattle feeding experiment conducted by the Purdue Experiment Station. The experiment covered a feeding period of one hundred and fifty days ending April 21.

Steers fed a ration of shelled corn, whole soybeans, corn silage and clover made a greater average daily gain at a less cost a pound gain and showed a better finish than steers fed a similar ration with cottonseed meal used as the supplement.

In case of the soybean meal lot the average daily gain was practically the same as with the cottonseed meal, altho the soybean meal lot showed a slightly better finish and were valued at fifteen cents per hundred weight higher than the cottonseed meal lot.

No trouble was experienced in this trial in keeping the steers on feed either in the soybean meal or the whole soybean lot. The following table shows the detailed results obtained:

RATION	Lot 1	Lot 2	Lot 3
	corn	corn	corn
	soybeans	soybeans	cottonseed
	oilmeal	silage	meal
	silage	clover	silage
	clover	hay	clover
	hay		hay
	salt	salt	salt
Initial value	\$7.00	\$7.00	\$7.00
Av. initial weight	945.8#	945.0#	946.2#
Av. final weight	1271.5	1282.0	1269.7
Av. daily gain	2.17	2.25	2.16
Av. daily feed:			
shelled corn	12.52#	12.56#	12.51#
supplement	2.58	2.53	2.60
silage	29.53	29.91	30.41
clover hay	2.49	2.99	3.51
Cost of feed	\$438.79	\$421.65	\$406.75
Cost of cattle	662.06	661.50	596.12
Total cost	1100.85	1083.15	1002.87
Cost of gain per cwt.	13.47	12.51	13.97
Necessary selling price	8.66	8.45	8.78
Actual selling price in lots	8.50	8.50	8.35
Profit per steer not including pork	2.01	.66	5.42
Profit per steer including pork	6.28	9.75	.31
9 steers in Lot 3:		Hogs \$7.25 per 100 lbs.	

PRICES OF FEEDS: Shelled corn, 1st mo. 61¢; 2nd mo. 60.6¢; 3rd mo. 62¢; 4th mo. 63.5¢; 5th mo. 67.4¢; cottonseed meal \$54 a ton; soybean oilmeal \$54 a ton; soybeans \$41.70 a ton; silage \$4.50 a ton; clover hay \$12 a ton; salt 1¢ lb." - W. H. Smith, U. of I.

Dairymen Making Progress - "The interest in whole milk production and especially in the more economical methods of production is growing. Quite a number of our dairymen are keeping daily records on production in order to weed out the boarder cow. The value of the silo legume hay and high protein concentrates in feeding has been ably demonstrated by a number of our progressive dairymen." - H. A. deVerff, Franklin County.



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Vol. VI

May 9, 1923

No. 19

Feeding Cows

During Spring and Summer

"Unfortunately the dairyman's feeding problems do not end with the coming of pasture, for the summer feeding problem is one that requires careful consideration. Dairy cows are usually at their best during the latter part of May and

June when they have an abundant supply of good pasture. Conditions at that time are almost ideal for the production of milk and butterfat. The grass is palatable and succulent and supplies protein, minerals, and vitamins. During this period only the heavy producing cows need some grain. A grain mixture consisting of corn or barley and oats may be fed. The amount to feed will depend largely upon the condition of the pasture and the amount of milk being produced. One pound of grain might be fed for every five or six pounds of milk produced.

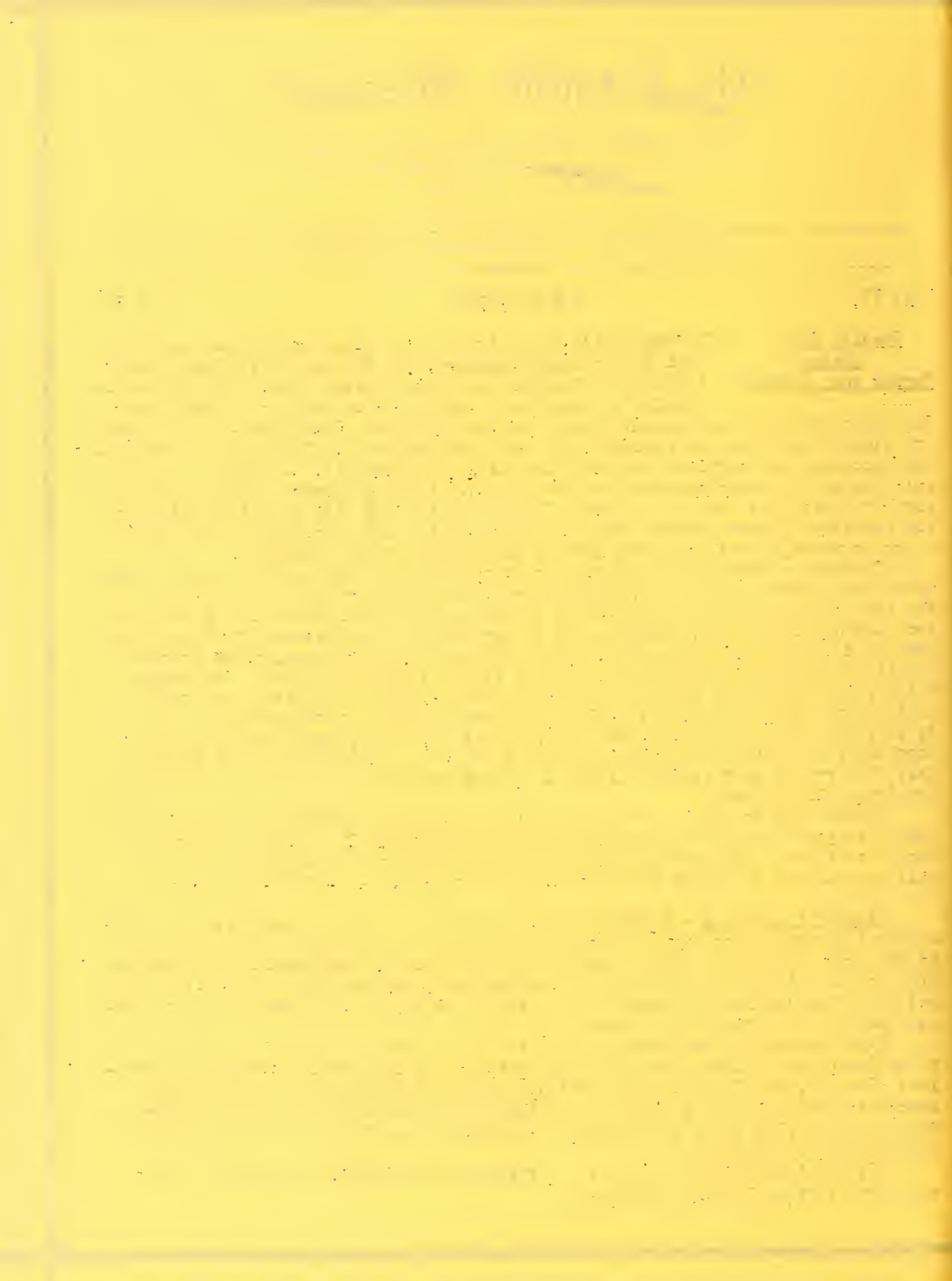
The more serious summer feeding problem comes when the pastures begin to dry up and the weather gets hot and the flies begin to bother the cattle. This is the time of year when it is difficult to keep up the milk flow and keep the cows from losing flesh. Cows cannot do it on dry dusty pasture alone. They must have some feed in addition to pasture. Either silage, soiling crops, grain or combinations of these feeds are used on many farms to good advantage. The grain ration, in addition to corn or barley and oats, might well include some protein concentrate such as bran, oil meal, or cotton seed meal. Such crops as Canada field peas and oats, alfalfa, soybeans, clover, cow peas, sudan grass, corn, and sorghums can be cut while green and fed to the cows. The dairyman who in the fall puts enough corn in the silo to last thru the summer has his summer feeding problems well in hand.

Enough feed should be used in addition to pasture to bring the herd thru the summer in good condition and to keep up the milk flow. The dairyman who takes good care of his cows during the summer will be making a good investment which will be realized on during the next lactation period." - C. S. Rhode, U. of I.

Flag Smut of Wheat - Bulletin 242 has just been issued by the Illinois Agricultural Experiment Station reporting the results of experiments on the control of flag smut disease of wheat. In the experimental work reported in this bulletin, treating the seed with copper carbonate dust, with copper sulfate-lime (dip) and with formaldehyde was found to be a practical means of control where the fungus spores are carried on the seed.

Experiments with two hundred varieties and strains of wheat have shown some to be immune and a large number highly resistant to flag smut. Fulcaster, Harvelous, Red May, Red Rock, and Shepherd are among the varieties that have shown immunity during the two or three years they have been in the experimental plots. Harvest Queen (Red Cross and Salzer's Prize Taker) and Red Wave are decidedly susceptible to flag smut.

This bulletin may be obtained by writing to the Illinois Agricultural Experiment Station, Urbana, Illinois.



Please Correct - "An omission in last week's Messenger of the minus signs before the figures \$2.01 in Lot 1 and \$5.42 in Lot 3, in the line giving the "Profit per steer not including pork" changes the loss per steer of \$2.01 in Lot 1 and \$5.42 in Lot 3 to a profit. The line should be corrected as follows:

	Lot 1	Lot 2	Lot 3
Profit per steer not including pork	-2.01	.66	-5.42

- W.H.S.

Spraying Stone Fruits - "Peaches---In an average season unsprayed peach trees are likely to ripen less than half a crop due to the attacks of the brown rot fungus. This ripe fruit disease develops with great rapidity in hot humid weather, and may at times ruin the crop in two or three days. Two sprayings should control the disease on varieties ripening in midseason, while only one will be required on such early varieties as Mayflower, Uneda, and Red Bird. The first brown rot spray should be made about four weeks after petal fall. Neither liquid nor Dry Lime Sulfur may be used even at reduced dilutions. The standard spray is known as self-boiled lime and sulfur; eight pounds of lump lime should be started slaking in a small quantity of water (hot water is best for making small quantities) and as the lime slakes sift into it 5 pounds of sulfur stirring continually and adding a little water at intervals to keep the lime slaking vigorously. As soon as the action has ceased dilute the mixture to 50 gallons add $1\frac{1}{2}$ pounds of lead arsenate and spray immediately upon the trees. About a month before ripening the self-boiled spray should be repeated, but at this time the lead arsenate may be omitted.

A satisfactory substitute formula for the self-boiled lime and sulfur is offered by the New Jersey Agricultural Experiment Station. The ingredients are superfine sulfur, hydrated lime and calcium caseinate. Sixty-four per cent superfine sulfur, 32 per cent hydrated lime and $\frac{1}{4}$ per cent calcium caseinate are thoroughly mixed in the dry form in which condition the mixture may be kept indefinitely. For spraying to control peach diseases use $12\frac{1}{2}$ pounds in 50 gallons of water with arsenate of lead as recommended above. Superfine sulfur and calcium caseinate may be obtained from most insecticide companies.

Plums and Cherries---Brown rot also attacks cherries and plums, the latter perhaps more seriously than peaches. Many varieties of plums never mature a clean crop unless sprayed. The same sprays recommended for peaches will be effective on plums and cherries but lime sulfur may be used on either at the rate of 1 gallon of liquid, or $2\frac{1}{2}$ pounds Dry, with $1\frac{1}{2}$ pounds lead arsenate in each 50 gallons of spray. The first application should be made just after the petals fall and a second 10 days later." -

Peach Leaf Curl - "The disease known as leaf curl became serious in Illinois in the spring of 1922. It is apparent at this time that another epidemic is on this season. The effect is most noticeable on the leaves which become puffed and folded curling inward and usually red or purplish in color. After a short time the infected foliage falls off in extreme cases causing complete defoliation. A new crop of foliage will appear in case the trees are reasonably vigorous. Applications of nitrate at the first appearance of the disease will assist the tree in recuperating. Use from 1 to 5 pounds per tree on trees ranging in age from 4 to 8 years. Since the disease is easily controlled by the dormant spray of lime sulfur, its presence is proof that the trees were not sprayed thoroly, or that the dormant application was delayed until the buds had begun to swell. Peach trees should be dormant sprayed in the fall or early winter to insure control of leaf curl." - W. S. Brock, U. of I.

Crop Improvement Association Increases Inspection Service - "The Illinois Crop Improvement Association has just completed plans for this season's work and are including several new crops in their inspection schedule. The inspection service this year will include in addition to wheat, oats, and soybeans, the crops previously inspected, corn, red, mammoth, and alsike clovers. It is not expected that the staff of inspectors available this year will be sufficient to meet demands where isolated individual growers want inspection, but it is hoped that they will be able to meet all calls where a large group of growers in a county want help.

The rules and general announcements are being printed and will be available for general distribution by May 15." - J. C. Hackleman, U. of I.

Projects that Reveal Corn Truths - "For the past six consecutive years the adviser has assisted in selecting seed for a plot of corn in which the owner has planted five varieties of medium early yellow and is attempting to fix a type of medium early maturing utility seed corn. The apparent results of this work are quite encouraging. A number of farmers have been assisted in selecting corn with reference to disease free characteristics. Arrangements are under way to plant a variety test plot with a view of ascertaining its chinch bug resistant qualities." F. E. Longmire, Grundy County.

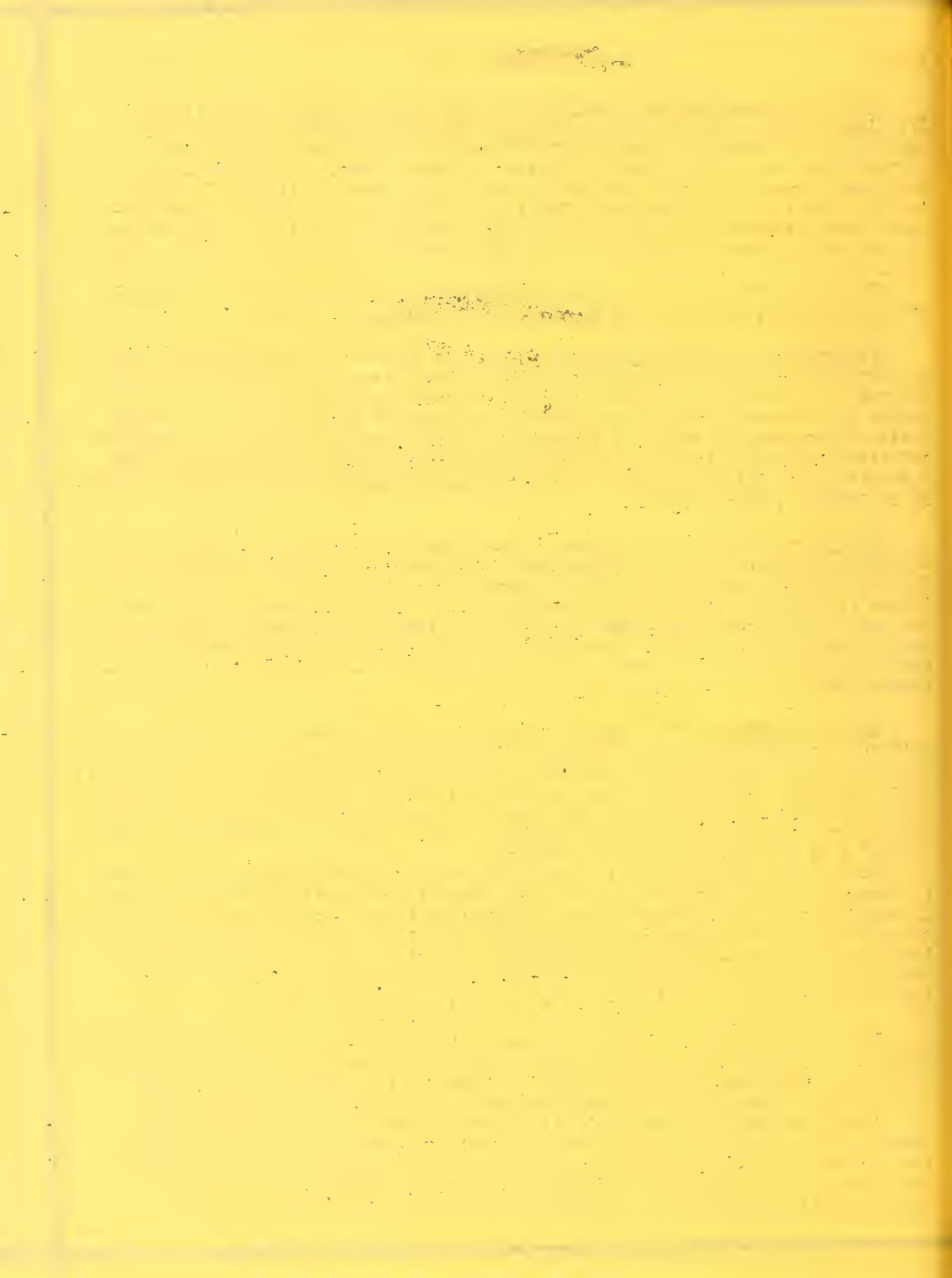
Krug Corn - "We have 55 farmers who are planting from five to fifty acres of the Krug corn found by the Woodford County Farm Bureau. This seed comes directly from the Woodford County Agricultural Association. In addition to this the Farm Bureau is paying for the seed for demonstrations where the farmer will compare two rows of this corn along-side their own. We have about thirty farmers who are cooperating in this project. Last year our farmers who tried this found the Krug corn to yield about four bushels more than their own." - F. E. Fuller, Marshall-Putnam County.

Pulling Together - "The Community Day held at Harrisburg recently was the result of a cooperative effort between the Farm Bureau and business men of the town. Nearly \$250 was distributed in premiums for live stock, poultry, and farm products. There was music by the band, games and contests for the youngsters and a big parade. Everybody seemed to have a good time. The purpose of the event was to draw the country and town people closer together and the results were abundantly worth while." - J. E. Thitchurch, Saline County.

"Close cooperation between the Farm Bureau and Farmers' Institute has existed in this county, but further advances along this line are outlined for the future. A committee of three representing the Farmers' Institute met with the Farm Bureau officers and the farm adviser with this in view. It is planned to use the Farmers' Institute as a round-up for some preliminary work in the study of corn diseases and the beginning of more extensive work along this line. We expect to revive the corn show in this county." - C. E. Keltner, Winnebago County.

Timely Club Films - "Bill Jones Champion" the picture taken of the club activities at Sioux City, has been released. This picture bears directly on the demonstration activities of the club members at this fair and may be secured from the U. S. Department of Agriculture thru the Agricultural Extension Service.

'Partners' the baby beef club film shown at several of the district conferences last year is now available for distribution at the cost of \$5 per week. Bookings should be made directly thru the Visual Instruction Department, Agricultural College, North Dakota. Cooperation between several counties in making a schedule will save carrying charges." - E. F. Wolter, Club Work.



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Vol. VI

May 16, 1923

No. 20

Good Results From Spraying The Spuds

"Potatoes are now coming up in most of the counties in the state, and if a full crop is to be raised, they will have to be protected from the insects that feed upon them, the most injurious of which are the potato leaf-hopper, flea beetle, and the striped or Colorado potato beetle.

One or all of these insects are present in destructive numbers every year, so we should not wait until the vines are partly destroyed before starting to spray. All of these insects may be controlled by spraying when the vines are six to eight inches high, using bordeaux mixture made with a 4-4-50 formula, with two pounds of arsenate of lead in each fifty gallon of the bordeaux mixture. Apply again seven to ten days later and follow by three other sprays at the same interval, omitting the arsenate of lead, unless the striped potato beetle is present in large numbers.

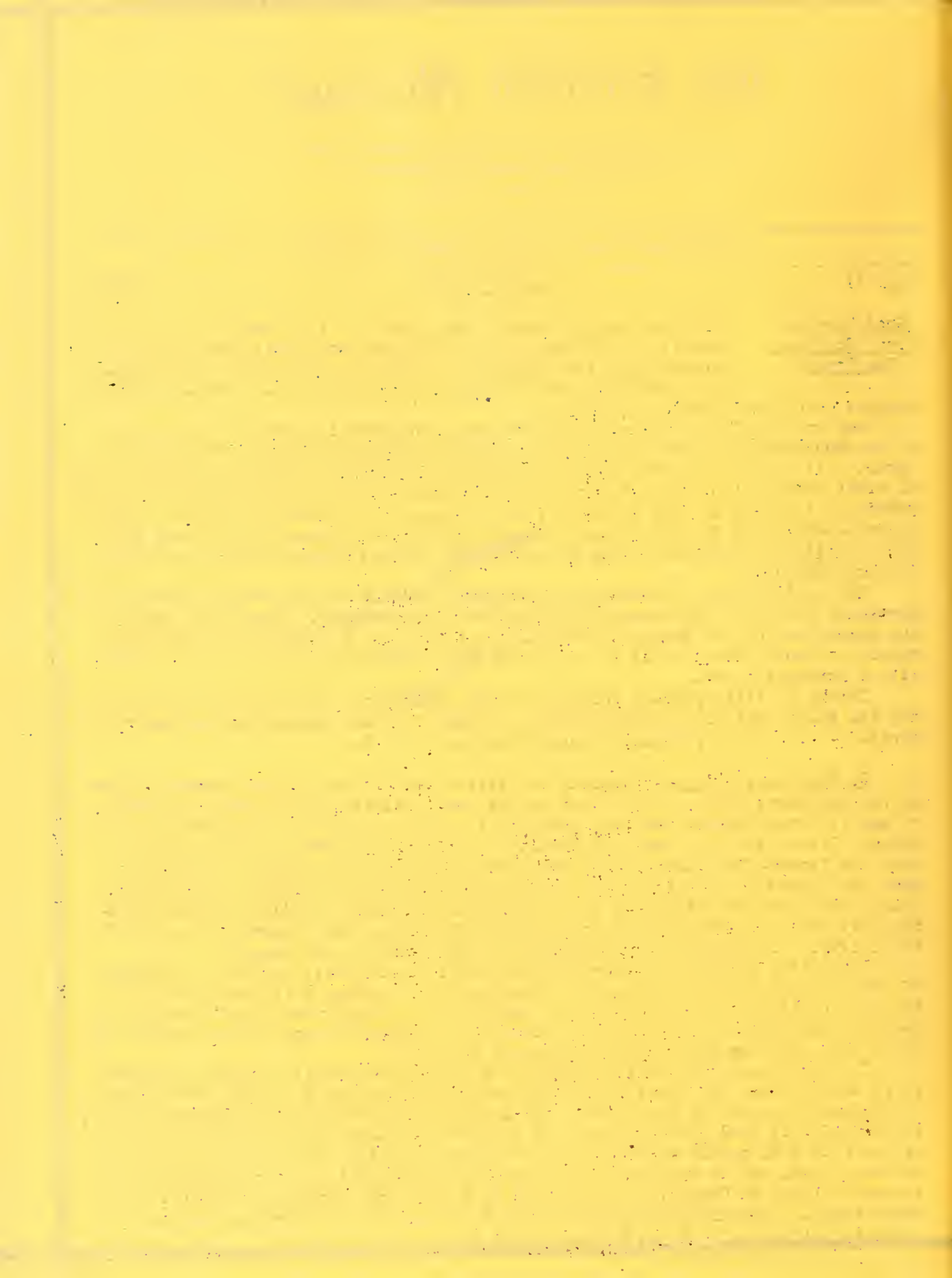
For small gardens a commercial preferred bordeaux may be used in place of the home-made material. Thoroughness of application is necessary. This means covering the undersides of the leaves as well as the tops. Use a sprayer with an angle nozzle to shoot the material up under the leaves. Thoro spraying cannot be done with a sprinkling can.

Thirty to fifty percent increase in the potato crop may be expected by following the right sort of a spray schedule, judging from the results of our experiments." - W. P. Flint, Natural History Survey, U. of I.

Do Not Stunt Calves - "Feeding too little milk is one of the common mistakes in raising dairy calves. Milk must be fed until calves are at least two months of age if strong rugged animals, gaining at least one pound per day, are to be secured. Fresh skim milk may be gradually substituted for whole milk beginning with the twenty-first day of age, providing the calves eat freely of grain and hay. One pound of milk daily for each ten pounds of live weight is sufficient. Dairy calves at the University of Illinois have been successfully raised by feeding only grain, legume hay, water and salt after they have reached the age of 60 to 70 days. The amount of milk required by this plan is not large.

There is a tendency to substitute commercial calf meals for milk at the age of two to three weeks, but the best directions for feeding calf meals call for the use of milk until calves are two months of age. Calf meals may be used as a complete substitute for milk after calves have reached the age of two months, but up to that age they are merely supplements to milk.

The final criterion as to whether or not calf meal shall be used is whether it is economical. The results of calf feeding experiments show that when used as a supplement to milk or as a substitute for milk after calves are 2 months of age, 1 pound of calf meal will replace 8 to 10 pounds of skim milk. One manufacturer states that 1610 pounds of skim milk, the amount usually fed a calf from 2 to 6 months of age, may be replaced by 200 pounds of calf meal. Proprietary calf meals are now selling in Champaign for 5 cents to 6 cents per pound. This means that skim milk has a feeding value of 50 cents to 75 cents per hundred pounds as compared to calf meal." - W. B. Nevens, U. of I.



Reducing the Effects of Sidedraft - "Sidedraft is responsible for a large amount of wasted energy in many of our field power operations with both horses and tractor. Sidedraft means the sidewise pull or force exerted on an implement when it is being moved by a pull making an angle with the direction of motion of the implement. Hence as a test of side draft, if a chain or free link in the hitch makes an angle with the direction of motion there is sidedraft; if the chain is parallel to the direction of motion, there is no sidedraft.

In many cases when the path of the horse or tractor is determined by a furrow, standing grain, etc., sidedraft is unavoidable. However, it may be reduced so as to do little harm. It is reduced by decreasing the draft of the implement by means of roller bearings or by thoro lubrication.

It has been estimated that 90% of sidedraft troubles occur in plowing. Sidedraft is often unnecessarily increased by pulling the plow toward the unplowed ground instead of adjusting it to take more land. When using horses for plowing, sidedraft can be reduced by arranging the eveners so as to make the horses work as close together as possible, or by the use of tandem hitches it can be reduced and sometimes eliminated.

Sidedraft may be decreased - often to advantage - by lengthening the hitch; however, it is desirable to have the prime mover close to the plow for easy control, and to avoid wide headlands. The swinging drawbar attached near the front of the tractor increases the effective length of hitch without making the distance between the tractor and plow greater.

In using a tractor, sidedraft may be decreased by running as close to the furrow wall as possible or by running one driver in the furrow; the latter is objectionable due to its effect on the tractor and also because of packing the subsoil.

In making the hitch to the plow, it is desirable to divide the sidedraft between the tractor and the plow by hitching slightly to one side o' the drawbar center." - R. C. Kelleher, Farm Mechanics Dept., U. of I.

News From the Field - "The twelve poultry record keepers are showing much interest in the work, and we think . will finally have a big influence on methods of handling poultry in the county." - J. W. Whisenand, Henry County.

"The County Club Committee held two meetings and arranged with the Hancock County Fair Association to put on a Pig Club Show at the Hancock County Fair this fall. Also some preliminary plans for securing the club membership were made and it was decided to devote most of our energy to the formation of four or five good local clubs in the communities that exhibit the greatest interest in this project." J. H. Lloyd, Hancock County.

"The work done with soils was primarily that of soil testing. One day three landlords and their respective tenants visited the farms of the landlords and also farms in that community where limestone had been used. Each of the landlords ordered a car of lime and the new tenant lease on at least one of these farms will make provision for the use of one to two cars of lime per year, the landlord furnishing the limestone, and the tenant hauling it, sweet clover to be sown on this and either pastured or plowed under." - W. W. Merritt, Clark County

"This month began with the attendance of the Southern Illinois District Conference held in Centralia the 2nd and 3rd. It seems that each conference is a little better than the one before. No doubt that it adds to the enthusiasm of the fellow who has plugged away in his home county for a half year, probably thinking that he has more problems to meet than any other farm adviser in the state. At the conference he finds that the other fellows have the same kind of problems and troubles that he has." - J. G. McCall, Johnson County.

Hint to Dairymen - Giving a poor cow away might be a good investment - a case where it is more profitable to give than to receive.

Don't Forget these Dates

Annual Farm Adviser's Conference - June 12, 13, 14.

General Mixer, Wednesday Evening, June 13.

Boys and Girls Club Tour to University - June 22nd.

Illinois Agricultural Association Annual Picnic, Urbana, June 29.

"The Pig Book for Boys and Girls" by William W. Smith, Professor of Animal Husbandry at Purdue University, has just been published. This 171 page book discusses in language easily understood by the club member, the various phases of the pig club project from the selection of the gilt to the development of a pure bred herd. It should supplement the literature already available and form a basis for a fuller and more systematic study of swine husbandry by club members. The book is published by the Lippincott Company, Philadelphia, - H. F. Wolter.

Cost Accounts Point the Way - "Summaries of records from 13 farms in Campaign and Piatt counties for 1922 have been made covering the following acreages: Corn 1080, soybeans 183, winter wheat 405, oats 645.

<u>Expense</u> (Av. per acre)					<u>Income</u> (Av. per acre)				
	<u>Corn</u>	<u>beans</u>	<u>Wheat</u>	<u>Oats</u>		<u>Corn</u>	<u>beans</u>	<u>Wheat</u>	<u>Oats</u>
Man labor	\$3.66	\$2.69	\$2.66	\$1.35	Grain	\$26.92	\$17.64	\$21.74	\$8.45
Horse labor	5.05	5.10	4.24	1.82	Rough.	.01	5.58	2.43	1.86
Tractor	.72	.46	.64	.25	Pasture	.85	1.14	1.05	.58
Seed	.14	1.85	1.70	1.04	Total	27.78	24.36	26.22	10.89
Machinery	.86	1.06	1.54	.45	income				
Gen.farm exp.	4.37	3.66	3.33	2.02	Net Pro-	.19	-4.59	-2.70	-9.60
*Misc.	.29	1.63	1.31	1.06	fit				
Tot.Oper.exp.	15.09	16.45	15.42	7.99					
Int: on land	12.50	12.50	12.50	12.50					
Total expense	27.59	28.95	27.92	20.49					

*Includes twine, fuel, threshing and fertilizers.

Corn is the only crop which showed a net profit when 5% interest on \$250 land was charged as an expense of production. However, before passing judgment on the merits of the above crops a number of factors must be considered. Soybeans were grown on a comparatively small acreage. The yield was low, only 15.3 bushels per acre. No doubt the lack of experience in growing soybeans, and unfavorable conditions during 1922 were largely responsible for the low yields. They were credited to the fields at \$1.15 per bushel and corn at \$.56. On the basis of these prices and the above expenses, soybeans yielding 20 bushels would return a profit per acre slightly above the profit from corn. Since soybeans compete with corn for labor to a greater extent than wheat or oats, they must come nearer to showing the same profit as corn if they are to secure a permanent place in the rotation. Factors such as effect on soil fertility must, of course, be considered.

Wheat was credited to the fields at \$.98 per bushel. This is below its normal ratio to corn. On the basis of a 60 year price average (1860-1919) wheat sells at \$1.03½ when corn is \$.56 per bushel. Thus, with average prices prevailing, wheat yielding one half as many bushels per acre as corn would give the same net return. Furthermore, wheat does not compete with corn for labor except at harvest time.

Oats showed the largest loss per acre. They were credited to the fields at \$.27 per bushel. With corn at \$.56 the 60 year ratio of oats and corn would give a price of \$.366 for oats. At this price it would have required 50 bushels of oats per acre in order to give the same profit as corn yielding 48 bushels." E. Rauchenstein, Dept. of Farm Org. and Mgt., U. of I.

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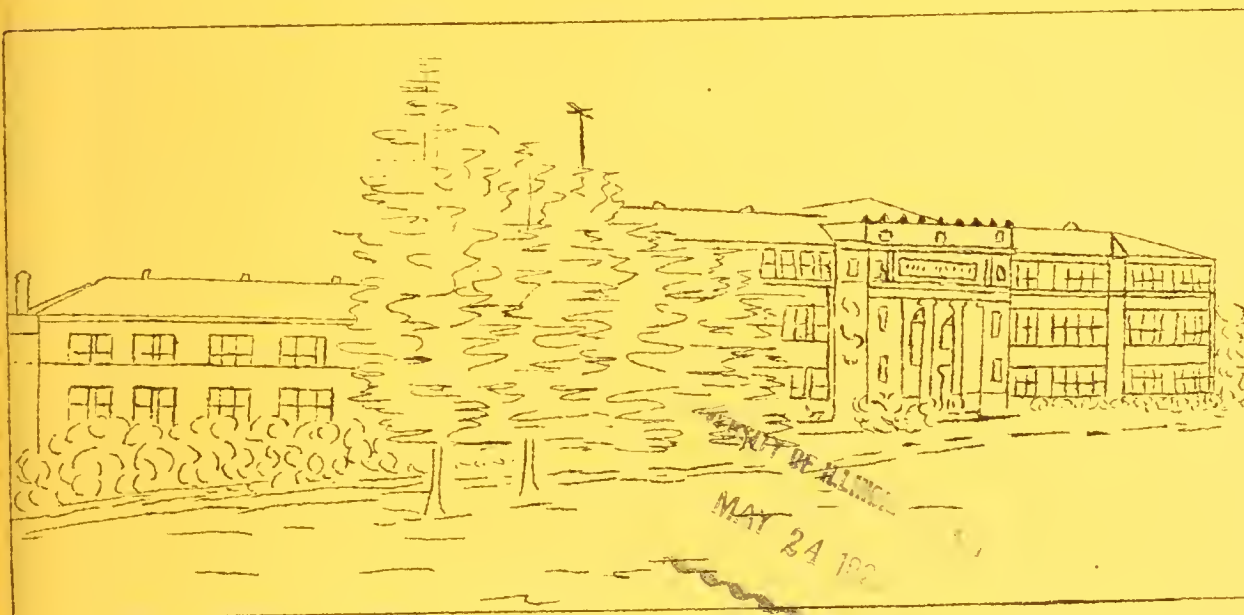
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May 23, 1923

No. 21

*The University
is calling you*



Agricultural Open House

"Agricultural Open House at the College of Agriculture will be held June 28, 29 and 30. These dates have been selected because of the convenience to citizens who will want to attend the Illinois Agricultural Association picnic to be held at Urbana on June 29. The experimental plots will probably be at their best at this season of the year and visiting delegations and the citizens of the state are most cordially invited to avail themselves of this opportunity to visit their College of Agriculture and Experiment Station. Guides will be stationed at the points of interest to explain the details of the work." - F. H. Rankin, U. of I.

Legumes Make Good as Fertilizers - "The large amount of nitrogen required in the production of any of our common farm crops, together with the high cost, if purchased as a nitrogen fertilizer makes it necessary to rely upon legume crops as the chief source of this element for meeting crop demands. The fertilizer value of legume crops lies in their ability actually to add nitrogen to the soil, thus enriching the soil in that respect. In order to serve as a nitrogen fertilizer, the crop must not only be grown, but returned to the soil either directly as a green manure, or in the form of animal manures thru live stock feeding.

Because of the ready adaptability to use as a catch crop, not interfering with the growth of a regular crop each season, the biennials are the most satisfactory legumes for use as nitrogenous fertilizers.

Aside from their fertilizer value, leguminous crops have a definite and important value as soil improvement crops, due in the first place to their conservation of soil nitrogen and in the second place, to their ability to convert relatively unavailable soil mineral nutrients into forms available for crop use. This ability varies greatly with the different species, but is nevertheless an essential factor in their soil improvement value." - E. E. DeTurk, Agronomy, U. of I.

Alfalfa and Sweet Clover Hints to Dairymen - "The 17th annual inspection trip taken by the students in dairy farming at the University of Illinois was made recently to dairy farms in the northern part of the state with farm adviser Hedgcock in Will and Richards in Kane counties. Among the important observations made was the striking one that much of the red and alsike clover had winter-killed, leaving the dairymen without any crop from which to make legume hay. This condition was seen on many farms and is reported quite general.

There hardy alfalfa or biennial sweet clover, inoculated and grown on well-limed soil, was allowed to get up eight or ten inches high last fall, it came thru the winter in good condition and scarcely a single heaved plant could be found in any field.

Where sweet clover had been pastured close late in October, about half of the plants had heaved from two to four inches, killing many and causing the others to make such a weak growth that they will not produce much pasture. Several examples of this injury were seen. On the plots not treated with lime and phosphorus at the Will county experiment field, sweet clover, even tho not pastured, had heaved badly. Wherever it had not been too closely pastured last fall, it was five inches high May 3 and ready to turn stock on, while blue grass on the same type of soil had scarcely started and would not be large enough for pasture until two or three weeks later.

These conditions strongly argue the economy of growing alfalfa for legume hay and sweet clover for summer pasture if they are grown on well-limed soil and allowed to obtain a growth of eight or ten inches in the fall to prevent winter killing. Plenty of both are essential to furnish the year's supply of economic protein for live stock." - Wilber J. Fraser, Dairy, U. of I.

Neighborhood Meetings - "Some time has been spent in the matter of better organization, especially for new members. Our plan now is to meet groups of 8 to 10 in different neighborhoods with the idea of discussing farm problems and how the farm bureau can help. The idea is to have a better understanding of the farm bureau and to get members to working on definite projects. This idea partly originated with a member who suggested that we have a neighborhood meeting in the schoolhouse where he first attended school. It so happens that there are many parts of our county where there are groups of about 8 or 10 in the school district. I believe the idea will work alright for summer meetings where farmers have but little time after the day's work and would not go far to a large meeting. Groups are smaller than what we have originally called community meetings." - H. C. Theeler, Lawrence County.

Spitler Cites Successful Projects - "The value of selecting a definite project and consistently following it up was clearly demonstrated on the recent sweet clover tour conducted by the Monroe County Farm Bureau. Five years ago when the farm bureau was organized, sweet clover was a rare crop grown by only a few farmers. Increasing the acreage of this legume was one of the chief projects of the farm bureau. Today, sweet clover is grown on every type of soil in the county. The acreage grown by a large percent of the farmers of the county will total several thousand.

The results of a project like this could not be determined in a month or even a year, but after five years of work the most critical person could not help but acknowledge the progress that has been made in increasing the sweet clover acreage of that county.

There were about 200 people on the tour. One farmer coming from Grundy county, Missouri, a distance of 250 miles. He became very enthusiastic and will seed 100 acres this coming year."

"The executive committee of the Johnson County Farm Bureau is endeavoring to overcome the common criticism from members who say they never see the adviser. The adviser plans to be in each community at least once each month. A schedule is usually sent out with the monthly bulletin. If for any reason it is found necessary to change the date, a notice of the change is sent to each member in the community. Timely demonstrations, farm visits and community meetings for the discussion of local problems will be the chief means used to reach the membership." - J. C. Spitler, Ass't. State Leader.

Control of Field Mice - "Field mice are more or less inhabitants of the open field, especially during the summer and fall, but return to the shelter of fence rows or woody lands that may border the field in winter. Often their presence in the field or orchard may be detected by the runways caused by their biting off and beating down the grass. The runways are about two inches in diameter and usually communicate with burrows.

Their food consists of seeds, grain, corn, clover, alfalfa, fruit, roots and vegetables. Two species especially attack young trees. The point of attack on trees is at or near the surface of the ground and upper roots. The work of mice can be distinguished from that of the rabbit in that the rabbit works higher up on the trunk and the marks of the large incisors are plainly visible, whereas the teeth marks of mice are finer.

Clean cultivation, screening and poisoning are the methods of control. The simplest method of screening is mounding. Newspapers, veneer wood strips and screen wire may also be used. The screens should project two or three inches below the surface of the soil, and be securely tied at the top. Both earth mounds and screens should be eight to ten inches high.

A good poison mixture can be made by thoroly mixing 1 ounce of powdered strychnine (alkaloid); 1 ounce powdered bicarbonate of soda, and 1/8 ounce of saccharin together. Put this mixture in a tin pepper box and sift it over 50 pounds of crushed wheat or oats, in a metal tub, mixing the grain constantly. A thin starch paste may be added before applying if a moist bait is desired. Distribute it in teaspoonful amounts over the field, in runways and burrows; also round weeds, straw, brush, litter, etc. Place it so as not to destroy stock, birds and children. An old tin can bent so as to leave a small opening is a good receptacle! F. W. Newton, U. of I.

Corn Demonstrations Planned - "Two corn disease plots will be conducted this year; also yield and comparison tests will be made on one farm in each township. Utility type corn and Krug's corn from Woodford county will be compared with some of the oldest varieties common in this county. Seed corn selection demonstrations will be held on each of these farms in the fall and the farmers agree to report yields on weight basis at husking time." - L. R. Marchant, Knox County.

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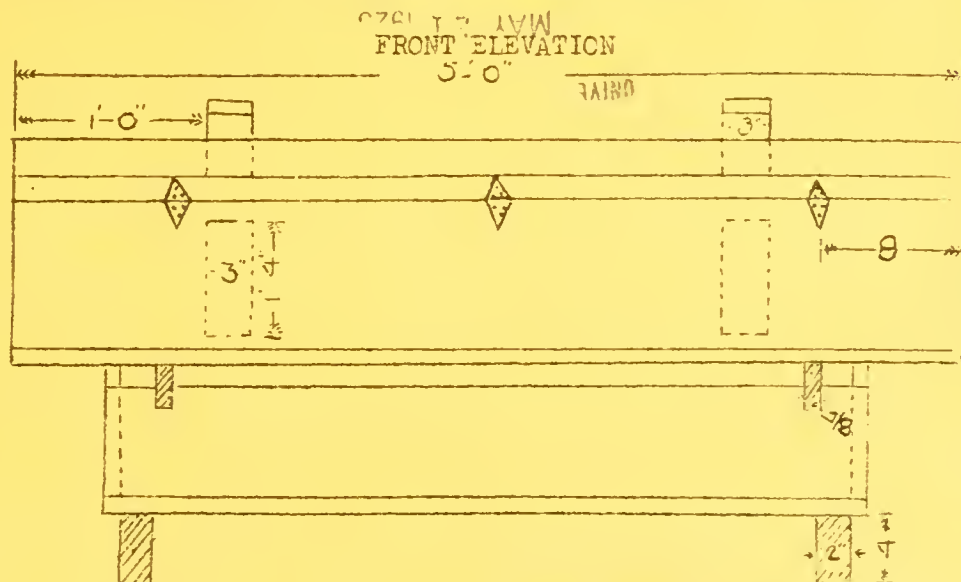
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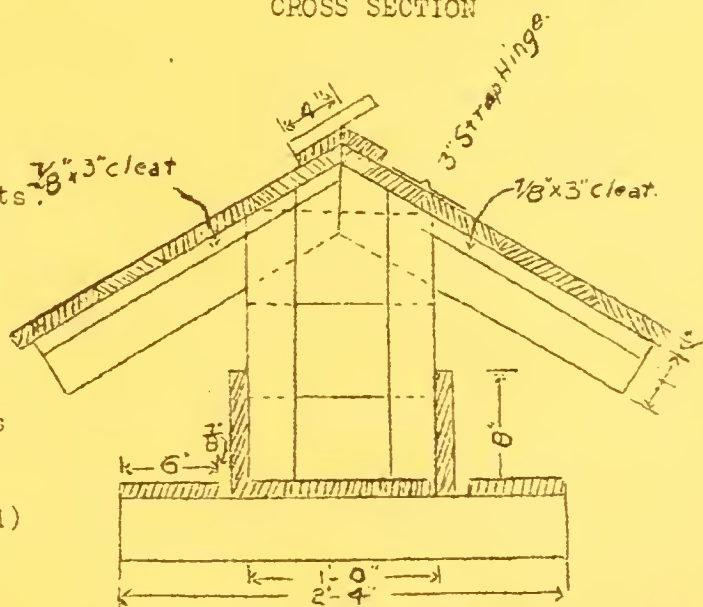
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Feed the Growing Chickens Dry Mash - "The simple mash hopper here illustrated is being used with excellent results on the University poultry farm at Urbana. Easily constructed of common lumber, it will hold ~~hold fifty to~~ sixty pounds of dry mash, or approximately a week's supply for one hundred three months old chickens. By filling three times a week the hopper will accommodate a flock of 300 to 400 chickens. The roof which may be of matched boards and painted or of square edged boards and covered with roofing paper, protects chicks from the hot sun while eating and thus encourages mash consumption, which in turn means rapid and economical growth."



CROSS SECTION



- L. E. Card, U. of I.

BILL OF MATERIAL

2 Pcs	7/8"x6"x4'-0"	Y Pine	Side Rails
2 "	" x6"x3'-10 "	" "	Floor
2 "	" x8"x4'-0 "	" "	Sides
8 "	" x6"x5'-0 "	" "	Roof
6 "	" x6"x1'-0 "	" "	Ends
4 "	" x4"x1'-10 "	" "	Roof Supports
2 "	" x3"x1'-10 "	" "	Roof Cleats
2 "	" x3"x1'-4 "	" "	Door
1 "	" x4 x5 -0 "	" "	Ridge Cap
1 "	" x3"x5'-0 "	" "	Ridge Cap
2 "	" x3"x 7 "	" "	Door Bumper
2 "	" 2x4"x2'-4 "	" "	Skids
4 "	" x4"x1'-10 "	" "	Corner Studs
1/2 pr.	3" Strap hinges		
1 pc.	1" Mesh Wire 1'-0"x4'-0"		
20 sq. ft.	prepared roofing (if desired)		

Check These Announcements-Important!

Bring Your Wife - Plans for the farm advisers' summer conference include a "Get-To-Gether" for farm advisers and Agricultural College faculty members, their wives and home advisers on Wednesday evening, June 13. Every farm adviser in the state is urged and expected to bring his wife for this "mixer". A charge of 75 cents per person will be made to cover the "eats" for the occasion. Aside from the usual activities at an affair of this nature a speaker of note will deliver an address fitting to the occasion.

Conference Program - Professor Theodore Macklin of the University of Wisconsin, an authority on the subject of cooperative marketing, will speak at the opening session of the Farm Advisers' Conference, Tuesday, June 12, on the subject of "Possibilities and Limitations of Successful Cooperative Marketing as Demonstrated by Actual Experience". Last fall Professor Macklin spent all of his time on the Pacific Coast investigating the workings of cooperative organizations there and will be in a position to present first hand information.

Other speakers included on the program are Dean Herbert W. Mumford of the College of Agriculture, Mr. Ivan L. Hobson, Club Specialist, United States Department of Agriculture, Dr. J. J. Lintner, Inspector in charge Tuberculosis Eradication, Bureau of Animal Industry, United States Department of Agriculture, and Mr. A. C. Everingham of Crawford County, Illinois.

University Swine Day - The Department of Animal Husbandry has arranged a Swine Day for Thursday, June 14, at the University to which the farmers and swine breeders of the state are urged to attend. At the meeting a discussion will be given of the results of the recent experimental work in feeding and slaughtering different types of swine. Plans for the continuation of these investigations will also be announced. The pigs to be used in this year's experimental work will be on exhibition so that those interested will have an opportunity to see the various types represented in these tests.

The following speakers will appear on the program which will be held in the Live Stock Pavilion beginning at 9:30 a.m.; Professor H. P. Rusk, Mr. J. B. Rice, Dr. H. H. Mitchell, Mr. Sleeter Bull, and Dr. Robert Graham of the Department of Animal Husbandry; Mr. E. N. Wentworth, W. M. McFadden and Gilbert Gusler of Chicago and Dean Herbert W. Mumford of the College of Agriculture.

All Set for Club Tour - The program for the Boys' and Girls' Club Tour to the University of Illinois on June 22 includes motion pictures on club work, a tour of inspection to the dairy manufacturing and agronomy departments, the Morrow plots, the pure bred live stock herds, flocks and experimental animals. Dean Mumford will speak immediately after luncheon. The afternoon program will be given over to practical demonstrations in poultry, dairy cattle, beef cattle and horses. A special tour of the Woman's Building, including demonstrations in clothing and jelly making has been arranged for the girls. A large attendance is expected, delegations already reporting from Adams, St. Clair, Whiteside, Christian, Macoupin, Macon and Shelby counties. Let's hear from your county!

Club Premium List Ready - Advance pamphlets are now available at this office for the Boys' and Girls' Club work at the Aurora Fair, August 17-25, 1923 and the Junior Department of the Illinois State Fair, September 15-22, 1923. Rules for state demonstrations and judging contests, and premiums for club live stock are given in the pamphlets.

Remember!! The enrollment of bona-fide club members should be in this office by July 1 in order to participate in any of the state contests.

Agricultural College Open House, June 28, 29, 30.

Illinois Agricultural Association Picnic, Urbana, June 29.

"Demonstration Team Work" which is recognized as one of the important activities in club work, serves two important purposes, (1) the members of the team are given some very valuable training which improves the quality of their work in the club, and (2) the teaching of certain fundamental principles and improved methods in agriculture and home economics in the home community.

Physchologists tell us that eighty per cent of what we learn comes to us thru the eye. This fact emphasizes the value of demonstrations in extension work and indicates the advisability of their greater use. Boys and girls can be trained to give demonstrations and to do them very efficiently. Teams of club members can be used in helping to "put over" regular farm bureau projects by having them demonstrate at meetings in their local community or at County and Community Fairs.

Every club member should be a demonstrator. Short demonstrations of simple subjects should be encouraged as a part of club meetings. From these, larger demonstrations suitable for a team may be developed. A team is composed of two or three club members, demonstrating some subject related to the project which the members are carrying on in their club. The demonstration should be at least twenty minutes and not to exceed forty minutes in length.

After selecting the subject, the members of the club should familiarize themselves with all of the subject matter relating to the demonstration. A contest for places on the team may be held, the demonstrators being chosen, first, on their working knowledge of the subject and second, on their ability to speak in public.

Choosing the team should be followed by an intensive period of drill, as a finished demonstration can result only after long hours of patient, painstaking practice. The team to represent the county in the state demonstration contests may be chosen at the time of the County Fair.

State demonstration contests will be held this year at the Central States Fair at Aurora and at the Illinois State Fair. Expenses of the team and chaperone are paid by the respective fair associations. The winners of the contest at Aurora will represent Illinois in the Interstate Contest at Sioux City, Iowa, and at the National Dairy Show, Syracuse, New York. They will receive their expenses for the trips. Also free trips are given to the champion live stock and dairy judging teams. Some of the winners of the contests at Springfield will receive free trips to the International Live Stock Show at Chicago.

Should you wish any assistance in preparing a demonstration on the subject we will be glad to help. We have prepared demonstrations on "Swine Management" and "Marketing of Eggs" copies of which will be supplied to clubs who wish them." - E. I. Pilchard, Club Work.

Plan a Dairy Tour - "Observations I have made of tours in various counties in Illinois lead me to believe that the dairy tour is a very important project in the improvement of dairy farming. Various angles of the dairy business can be studied on such a tour. It is an ideal time to study the results obtained from cow testing associations, methods of feeding in summer, building up a dairy herd, pasturing sweet clover, and the like. Not long ago I was on a dairy farm where sweet clover had been used as a pasture crop for eight years. The results clearly indicate the importance of this pasture crop. On another farm a dairyman had built up his herd by starting with one registered cow twelve years ago. The uniformity and producing ability of his herd were outstanding. Another dairyman had a small herd running on sweet clover. The returns from butterfat sales were \$120 monthly. Still another had two year records on his herd. They brought out very clearly the value of good feeding and management. The ladies enjoy these tours and greatly help to make the picnic lunch a success." - C. S. Rhode, Dairy Department, U. of I.

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The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

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June 6, 1923.

No. 23

Thomas' Sentiments

on

"Get-Together"

"As truly as June is the month of brides so is the June Conference of Farm Advisers the logical time to bring your wife or sweetheart along. The season of the year and the good roads will help to make it an enjoyable party. Preparations are being made at the University that will help to make the wives glad they came, so don't hesitate to try your old-time persuasion to get her to come." - Melvin Thomas, President Illinois Farm Advisers' Association.

Cost of Producing Soy Beans - "The acre cost of producing soy beans on seven Champaign County farms where the beans were threshed in 1922 varied from \$25.34 to \$33.47 per acre on different farms. The yield varied from 7.25 bushels to 22.5 bushels per acre. After crediting the crop with the value of pasture and roughage, these same farms showed a range of from \$1.10 to \$3.25 per bushel in the cost of producing beans. Part of this variation in cost was due to an unfavorable year which caused a wide variation in yield. On the other hand, the results are what might be expected with a new crop which many people were not accustomed to raising.

It is worth noting that man labor varied from 11.2 hours to 15.6 hours per acre, and that horse labor varied from 21.3 hours to 40.1 hours, showing that some men used 40% more man labor and nearly 90% more horse labor than others in handling the soy bean crop. As would be expected from data on other crops a great deal of this variation in the amount of labor and in cost is due to the variation in efficiency in farm operation. If a cost of 25 cents an hour for man labor and 15 cents an hour for horse labor is assumed the variation in labor would account for a variation of \$3.92 per acre in the cost of producing soy beans.

Since heavy labor on soy beans comes at the same time that corn requires much labor, it is all the more important that careful attention be given to reducing the labor used on soy beans to the minimum required to get good yields." - H. C. M. Case, Farm Org. Mgt. U. of I.

Get Ready to Battle Chinch Bugs - "Up to the present time the rains have not killed the chinch-bugs. Young bugs will probably begin to hatch about June 5. At the present time it looks as though they would be very abundant and destructive in the area of the state extending from Jackson and Franklin Counties on the South, to Henderson, Will, and Cook Counties on the North. Both creosote and coal tar are somewhat scarce and it would be well to make sure of a local supply of barrier materials as soon as possible." - W. P. Flint, U. of I.

Chinch Bug Circulars - "Special attention is called to two new bulletins on Chinch Bugs: #268 - "Fight the Chinch Bugs with Crops", by W. L. Burlison and W. P. Flint; and #270 - "Chinch Bug Barriers", by W. P. Flint. These bulletins will not be sent to the general mailing list, but a supply is available for farm advisers and others upon request.

Sweet Clover Furnishes Pasture During Dry Weather - "Sweet clover is not only a fast growing crop but after it becomes established, it has an extensive rootsystem which penetrates the soil to a great depth. This enables it to resist periods of drought, as it can obtain moisture and food nutrients far below the surface when the soil is dry on top. All food for plants must be in solution before it is available for use by them. Blue grass has a shallow root system and as soon as the surface soil becomes dry it is unable to obtain any more food and dries up. But sweet clover, because of its wonderful root system, is able to resist the hot dry weather of midsummer and maintain a good growth and fairly even supply of pasture in the period when blue grass withers and dries. It is practical insurance against short pasture, and consequent reduction of the milk flow during any ordinary drought in Illinois.

The Kansas experiment station showed that sweet clover seeded April 1 had developed by July 25, 115 days after planting, tops that were from 12 to 16 inches high and roots that were five feet deep and with a diameter at the top of from $1/6$ to $1/4$ of an inch.

On my farm in northern Illinois on May 3 the plants in the sweet clover field, sowed in the wheat last year, averaged nine per square foot. At a depth of seven inches the roots were from $1/4$ to $7/16$ of an inch in diameter on a piece that was being plowed for corn. The tops averaged from $3/8$ to $3/4$ of an inch in diameter and the top seven inches of the roots weighed at the rate of $6\ 9/10$ tons of green roots per acre, and below the seven inches of plowed soil and to a depth of 18 to 30 inches, the sweet clover roots weighed at the rate of 3.8 tons per acre. That indicates the wonderful resource of sweet clover in drawing its food from the subsoil. It has another whole farm to feed upon below the surface farm that blue grass reaches." - Wilber J. Fraser, U. of I.

Notes from the Field

Brown Swiss Breeders Practice Cooperative Methods - "The Brown Swiss Cattle Breeders of the county are planning to fit a show herd this summer. This herd will be shown at the Springfield, Peoria, and Tazewell County Fairs and if any of the breeders can spare the time away from home the herd will be taken to the Central States Exposition at Aurora and the Ohio State Fair. There has been such a demand for Swiss breeding stock that many of the breeders have sold animals that were good show prospects. However, the two trips taken by the committee over the county have resulted in the listing of a number of splendid individuals. There are no large herds of Brown Swiss in the county. The owners have started with two or three head and are building up their herds at a low cost to themselves." - Ralph E. Arnett, Tazewell County.

Cooperative Poultry Meetings - "Mr. Creighton, Adviser of White Co. and myself have planned a series of general poultry meetings covering one week in each county. General poultry talks and three reels of poultry films will constitute the nature of these meetings. We are trying out this plan of cooperative work with the idea that it will assist in putting over such work in a more thoro manner than could be done working alone." - C. W. Simpson, Gallatin County.

Dairy Show and Judging Contest - "The Farm Bureau, in cooperation with the Waterloo Condensed Milk Company, recently held their 4th Annual Dairy Show and Judging Contest. This project was a success in every respect. There were 61 Holstein Cattle on exhibition and the attendance was far above expectation. Representatives from the Dairy Department of the University of Illinois and the State Holstein Friesian Association officiated as judges of the contest and also gave a judging demonstration and a talk on the care and management of dairy cattle to the crowd of farmers present. This show has proven to be an important project in stimulating interest in better dairy cattle thruout the county." - Alfred Tate, Monroe County.

Experience with Retest - "For the last 90 days, Edgar County has been in the midst of a second complete T. B. test. To date, considerably more than half the county or approximately 1100 herds have been tested. The number of reactors found so far is only 15. Last year the county turned out 225 reactors. When we consider the fact that practically one half of the reactors discovered this year were in herds that have been moved into the county since the previous test, this showing is remarkable. The percentage of reactors last year was approximately 2%. In the same herds this year, it is less than one tenth of 1%. We feel that this is proof enough of the efficiency of the intradermal test. The work is proceeding at a rate which will insure its completion by July 1, after which this will be an accredited county." - Enos Waters, Edgar County.

"Since July 1, 1922, 3075 cattle have been tested for T. B. with 607 reactors or 19.7. On the retest in 50 herds the percentage of reactors has dropped from 25.3 percent to 5.6. Approximately 25 cars of reactors have been shipped to Chicago for slaughter since July 1. The indemnity and salvage has amounted to \$48.97 per head on the 25 cars of slaughtered cattle. On this basis the loss is not as great as one would think. So far we have received approximately \$20,000 indemnity from the state and government." - J. C. Kline, Boone County.

Tours Get Results - "Last Monday and Tuesday we took 35 farmers to visit the dairy section of Macoupin County with the idea of stimulating interest in the dairy business in the rough sections of our county. This has been one of the most successful and outstanding pieces of work which we have done this spring. We have created an interest among the farmers of this section of the county such as would have been impossible to create in any other manner or form than that of conducting a tour into a successful dairy region. A great deal of credit is due the Macoupin County Farm Bureau for the splendid arrangements which they made for our entertainment and inspection tour. They also arranged a splendid dairy meeting for us at Bunkerhill, which was the only night we spent in their county. Taken altogether this two days tour was one of the best ways of stimulating interest in dairying. By this method we inspected 8 or 9 herds and in each instance the owners or managers of the farms gave our men some splendid first hand information." - Otis Kercher, Pike County.

Legume Club Started - Held a meeting at Beecher City and formed a Sweet-Clover-Alfalfa Club. Ten were asked to sign an agreement to sow at least one acre of sweet clover or alfalfa during the year 1923, and to lime the ground and inoculate the seed before sowing. 18 men signed up to sow a total of 56 acres of sweet clover and 69 acres of alfalfa." - F. W. Mascher, Effingham County.

Send in Ton Litter Entries - "Reports have been received from 32 counties with enrollment in the Illinois Ton Litter Club. In these counties 523 entries have been reported. If there are other counties with entries, these should be forwarded at once so that the total enrollment for the state can be secured. A meeting will be called during the farm advisers' conference to discuss further plans in carrying out the contest and a uniform medal will be adopted for the state.

Contestants should be urged to weigh their litters once a month and report to the advisers on the gains. Champaign County reports one litter of 10 Tamworths that weighed 910 pounds at 90 days of age." - W. H. S.

New Visits to Old Friends - "We are attempting within the next two months to see every farm bureau member whose farm we have not visited during the past two and a half years. We have a total of about 100 farm visits of this nature in three townships to make. During the past month we have finished two townships. Chas. H. Rehling, Clinton County.



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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI.

June 13, 1923

No. 24

Do not Neglect
Cows
in Summer

"The busy farming season, hot weather, flies, and short pastures are conditions that must be met by the dairymen during the summer months. Regular milking periods should be adhered to as closely as possible during the busy farming season, as any marked change in the regular management of dairy cattle usually results in decreased milk and butterfat production. It is not advisable to allow the dairy herd to run down in flesh. Too often this happens in late summer. The cows freshen in thin condition and will not produce as well or as efficiently as cows that freshen in good flesh.

There are many dairymen who feed silage or grain, or both during the summer, and they say it pays. It will pay even more next winter. The following grain mixture may be fed at the rate of one pound to every three and one-half to five pounds of milk produced a day, depending on the amount of milk produced and the condition of the cow: corn or barley, 5 parts; oats or bran, 2 parts; oil meal, 1 part.

Flies are responsible, in a large measure, for low milk yields in summer and thin cattle in the fall. Cows should be protected from them as much as possible. One of the best means of eliminating the fly evil is to keep the cows stabled during the heat of the day in cool, darkened barns. Windows can be darkened by nailing building paper over them. Gunny sacks may be hung in the doorway in such a manner that flies will be brushed from the cows' backs as they enter the barn. Manure should not be allowed to accumulate around the stables, as it is an ideal breeding place for flies. Powdered borax sifted over manure will aid in their control.

Some fly repellent mixtures are effective for a short time. A home made spray may be prepared as follows: Dissolve one-half pound of soap in a gallon of soft water heated to the boiling point, and with it combine two gallons of kerosene. Churn vigorously and add six gallons of water." - C. S. Rhode, U. of I.

A Forward Looking Community - "Some nine years ago a rural preacher with a vision of the future called a meeting to discuss community problems. From this modest beginning grew the Rural Life Progress Club of Naperville, Du Page County.

It was my good fortune to be present at the May meeting of the Club. Seventy-five members of farm families, about half the usual attendance, braved the storm that night to take part in the discussion and program. Appropriate music, a review of local happenings in the neighborhood, with many pointed joke intended only for local ears, with a fine talk on "Rural Life and Home" by Dr. Frye completed the local part of the program.

Summer meetings of the Club are held at farm homes, winter meetings at the Y.M.C.A. in Naperville. A club picnic is an annual event participated in by all the clubs in this section of the state. The foresight of those responsible for the organization of this club is well illustrated in the objects or programs of work as drafted in the original constitution. Every member was pledged to endeavor to do one of five things,--Improve their soil, their livestock, their buildings, their home life, or their community. A program worthy of any club today and one that has been a real asset to this community." - J. D. Bilsborrow, U. of I.



The Fertility in Pastured Legumes - "As a restorer of soil fertility, the pasturing of legumes ranks next to their use as a green manure, but considering farm profits, the use of legumes as pasture is the more profitable practice. As much as seventy-five per cent of the nitrogen and phosphorus, and ninety per cent of the potassium contained in the feed may be recovered in the manure when good care is taken of it. How could manure be cared for better than by distributing it directly on the soil?"

It is only in the case of nitrogen that an actual addition is made to the soil by pasturing. The phosphorus and potassium in the manure simply represent a return of part of that which has been taken from the soil, but with the advantage from the standpoint of soil fertility, that the legumes, which are deep rooted and strong feeders on the relatively unavailable soil minerals, have brought up phosphorus and potassium from the lower strata of soil. The phosphorus and potassium are now left at the surface in a more available form, fifty per cent or more of the potassium being in a water soluble and available form.

The nitrogen found in the tops represents practically an equivalent of the amount of nitrogen which the legume has taken from the air. This amounts to forty or fifty or more pounds per ton of dry tops. The seventy-five per cent of the nitrogen returned in the manure is, then, a clear gain in fertility to the soil, linked with a profitable utilization of the land at the same time." - F. H. Crane, Agronomy Department, Assistant in Soil Fertility, U. of I.

You Can't Get Live Leads from Dead Mailing Lists - These are the sentiments of Adviser Griffith, Lee County, who writes: "We have tried to keep our list up to date and find that it is a difficult task, but have gotten it down to about the last notch now. We adopted a plan some time ago of using only the Farm Bureau name, such as 'Hancock Co. Farm Bureau, Carthage, Ill.' and not using the adviser's name. In this way the farm bureau exchange list is always up to date. This suggestion might interest some of the counties where an attempt is made to keep the adviser's name on the list." - Rose D. Briem, U. of I.

Robbins Goes to University. - Mr. E. T. Robbins, who has been farm adviser in DeWitt County for the past three years, has accepted a position as Departmental Specialist in the Animal Husbandry Department of the University of Illinois and began work June 1. Mr. Robbins is a graduate of the University of Illinois, specializing in animal husbandry work. Immediately after graduation he engaged in farming for five years and then spent three years in charge of the Animal Husbandry investigational work at the Iowa State College at Ames and has served as farm adviser in Tazewell and DeWitt County, Illinois.

Notes From the Field

Club Demonstrators Enter Tryouts - "During the past month we have organized another clothing club and at the present time have a membership of seventy-eight girls in this project. Also tryouts were held in the Corn, Calf and Pig Club to pick the personell of a demonstration team on the subject of 'Swine Management.' Nine boys and girls were present for the tryouts and a team was picked by local judges. During the month about 90% of the projects have received farm visits and all the boys and girls are working hard in their feeding work to compete for the prizes which have been offered by the different breed associations in the county." - Paul E. Johnston, Woodford County.

Keeping in Touch With Project - "In order to sustain interest in the Ton Litter project I am attempting to make a special call on every member of this club and have also sent out a sheet on feeding suggestions in order to keep the members on their toes to make the most possible of every day over which the project will extend." - E. M. Phillips, Greene County.

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A Few Thoughts on Publicity - "In making 230 farm visits during the month we were able to make some observations that are worth telling the folks about. We gave 41 news articles to the press during May. We feel that proper amount of publicity is essential in making farm bureau work stick. Every newspaper is eager for local 'dope'. There are some farm bureaus who have done splendid work and forgot to tell their people about it, now in re-organizing the adviser wonders why they fail to rally to the cause. Who is there who has as many interesting observations to tell about as that which comes before a farm adviser. In addition to commanding the attention of farmers to better methods of farming, it is possible to develop favorable public opinion, a thing which we must have." - F. E. Fuller, Marshall-Putnam County.

"The use of posters in calling attention to phosphate plots, ton litter contestants, and those keeping Poultry Records, is one of the best forms of publicity we have used. Posting a place seems to arouse enthusiasm in the contestant and certainly puts the Farm Bureau on the map. In my opinion projects must be marked in some public way like this." - George B. Kendall, Morgan County.

The Illinois Testing Plan - "The Effingham County Cow Testing Association has been reorganized under the Illinois Plan of testing. The name of the new organization is the Tri-County Cow Testing Association. There will be from 100 to 125 members at an approximate cost of \$15 per member. About 75 per cent of the members are in Effingham County, other members being located in Shelby and Fayette Counties. The farmers will take the samples, weigh the feed and milk, and send the records and samples once a month to Beecher City where the testing will be done and the herd books kept. The tester, in addition to doing the testing and keeping the records, plans to visit each member's place twice during the year." - F. W. Wascher, Effingham County.

Finding Community Work Worth While - "A program of meetings touching every community of the county was planned for the month. Rains interfered with some of the meetings, but those held were attended by large and enthusiastic crowds. We are learning to work by communities and as we find leaders in the various communities the work becomes more far reaching and more efficient. Our programs were centered around the three lines of production best suited to our county." - L. Kimmel, Pope County.

Beautifying Farm Homes - "Eight farmers living along the six mile road between Taylor Ridge and Edgington secured the assistance of the farm adviser in landscaping their homes. The problem that confronted these farmers was 'what' to use in the way of shrubs, vines and trees and 'where' these plantings should be located to secure the best effect. The plantings about these homes will demonstrate to the farmers of the county a way of making the farm home more attractive, and farm life more satisfying. A farm home without plantings, or with improper plantings, improperly located is like a house unfurnished, or one unsuitably furnished." - O. E. Ackerson, Rock Island.

Using Local Leaders - "One day was given to Horticultural meetings with special attention to the pruning problem. The adviser was assisted by Mr. W. W. Owen, one of our best fruit men. Demonstrations were given on three farms." - J. E. Whitchurch, Saline County.

Farm Mortgage Financing is the title of a new book by Ivan Wright, Asst. Prof. of Agricultural Economics. This book is written especially for farm advisers and farmers. It is designed to tell the facts of how to use farm mortgage credit, the right time to get credit, service of bankers, land valuation, land speculation, titles, federal farm loan system and tax exempt securities. The book contains, also, the new federal farm loan act of March 3, 1923. The book is published by McGraw-Hill of New York City.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

June 20, 1923

No. 25

Efficient Use of Man Labor in Threshing. "The following tabulated data expressed in bushels threshed per man per day secured on fifty-one threshing rings in three different parts of the state indicate that the use of the small thresher increases the efficiency of the men on the job:

	Southern Illinois	Western Illinois	E. Central Illinois
Small Threshing Rigs	54.1	68	86.9
Large Threshing Rigs	45.5	55.8	56.9

It is interesting to note that the difference in the number of bushels threshed per man varies from 8.6 bushels in southern Illinois to 30 bushels in east central Illinois. There are, no doubt, many factors effecting the efficiency but the size of machine seems to be an important one.

The use of basket racks was found to be another factor in increasing the efficiency of the men. Cooperative rings without basket racks were threshing at the rate of 57.2 bushels per man per day while cooperative rings with basket racks threshed 84.3 bushels per man per day." - J. H. Hedgcock, Farm Mechanics, U. of I.

Threshing Ring Labor Settlements. "A simple and fair way of settling up differences which occur in exchanging labor in threshing is to make the settlement on the basis of the hours of man labor which each member of the threshing ring furnishes and receives from the other members. The following table illustrates the method of recording the time and the necessary calculations for settling up at the end of a threshing run:

Labor	Total						Hrs.	Cash	
Furnished	hrs.						Owed	Cash	owed
by/to	fur-						by	owed	by
	Jones	Rich	Nye	Clark	Allen	Smith	nished	Ring*	Ring*
Jones	--	40	14	32	16	48	150	46	\$13.80
Rich	56	--	14	32	16	48	166	26	\$7.80
Nye	28	20	--	16	8	24	96	40	12.00
Clark	28	20	7	--	8	24	87	41	12.30
Allen	28	20	7	16	--	24	95	31	9.30
Smith	56	40	14	32	16	--	158	10	3.00
Total	196	140	56	128	64	168	752	97	29.10

Hrs. Rec.

*Labor was figured at 30¢ per hour.

Time is counted only while the machine is running tho short delays of less than 15 minutes are not deducted." - E. Rauchenstein, U. of I.

"Kankakee County staged a red letter pig club day recently by enrolling 249 members (84 of whom were girls) in a Pure Bred Spring Gilt Club. Pigs were distributed to this group at an all day picnic attended by 1500 people on the Kankakee County Fair Grounds. Each member will be visited three times during the season by one of the 249 business men who financed the purchase of the pigs. The plan is to organize one local club in each township. This large enrollment is the result of close cooperation between the Farm Bureau, the Kankakee Chamber of Commerce and the County Superintendent of Schools." - E. I. Pilchard, Club Work.

"SWINE DAY"

"Results of the experiment conducted last year upon types of swine was presented to a group of about 250 farmers, breeders, experiment station investigators, and representatives of the farm press that gathered at the University for the Swine Day program on June 14th. In this experiment three lots of 25 Poland China pigs each were used. One lot represented the old-fashioned, thick, short, low-set, chuffy type. Another lot was an intermediate type, medium in thickness of flesh and length of leg. The third lot was a rangy type, rather narrow and long legged, typical of the present day show type of this breed. All pigs were fed individually. Five pigs of each lot were put upon a maintenance test at the beginning of the experiment. The other pigs were given all they would eat of a ration of corn, tankage, and middlings. At the weight of 225 pounds five pigs from each lot were put on the maintenance test while the other pigs were slaughtered at this weight.

Gains in Weight. J. B. Rice of the Swine Division reported that the pigs of the intermediate type produced 3.6 percent more rapid gains than those of the chuffy type and 15 percent more rapid gains than those of the rangy type. The ability to consume feed also was in favor of the intermediate type. The pigs of the chuffy type required 3 percent more feed and those of the rangy type 8 percent more feed to produce their gains, than those of the intermediate type.

Length of Intestines and Digestive Capacity. R. J. Laible reported that, while there were large individual differences, there were no differences between the three types in length of intestines and capacity of the digestive tract. Neither was there any positive correlation between capacity of digestive tract and the amount of feed eaten.

Maintenance Requirements. H. H. Mitchell of the Nutrition Division reported that the pigs of the rangy type required about 19 percent more feed for maintenance than those of the intermediate type. The chuffy pigs required slightly more feed for maintenance than those of the intermediate type. Deducting the amount of feed used for maintenance, it was found that all three types utilized their feed to about the same degree of thoroughness.

Dressing Percentages. Sleeter Bull of the Meats Division stated that the average dressing percentages of the three types were practically the same. The average cutting percentages were practically the same for all three lots in cases of clear plates, hams, shoulders, bellies, and loins. The neck bones, spare ribs, and feet of the rangy type were slightly greater, undoubtedly due to the greater amount of bone. The amount of trimmings from the carcasses of the rangy pigs was more than 10 percent greater than from the other carcasses. This difference was due largely to the greater amount of neck in the rangy type. The percentages of fat back and leaf fat in the chuffy and intermediate carcasses were considerably greater than the same cuts of the rangy type, undoubtedly due to the lower condition of the pigs of the latter type. The hams and bellies of the chuffy and intermediate pigs were of the highest grade. The hams of the rangy type did not carry down well toward the shank, while the bellies were soft, flabby, unfinished, and lacked quality. Practically all the cuts of the rangy pigs contained a higher percentage of skin and bone than the corresponding cuts from the pigs of the other lots.

Plans for 1923 Type Experiment. Five types of Poland Chinas will be represented in the experiment to be conducted this year. In addition to the three types of pigs used in the 1922 experiment, one lot of pigs will be fed which is more chuffy and another lot which is more rangy than any of the lots of last year. Three lots of twenty pigs each representing the very chuffy, intermediate and rangy types will be fed individually. Four lots of ten pigs each representing the chuffy, intermediate, rangy and extremely rangy types will be self-fed. The ration will consist of corn, tankage, middlings, and ground alfalfa." - Sleeter Bull, Meats, U. of I.

Club Beef Calves Need Good Care in Summer. "Club members should realize that much of their success will depend upon the kind of care they give their calves. Every reasonable precaution should be taken to insure the comfort and well being of the animals for it is only when they are quiet and contented that maximum gains are secured. Comfort implies protection from extreme weather conditions, from annoying parasitic insects, and from possible molestation by other animals. In hot weather a cool place should be provided that affords a good circulation of air. As a rule calves will do better if kept out of the sun during the day and turned out on the pasture to graze and exercise only at night. If allowed to run out their coats will be sunburned and their hair become dry and harsh.

Considerable annoyance from flies is always encountered during the summer months. Little relief can be expected from spraying with either patented or home made repellants. Besides, the use of many of these preparations tends to injure the hair of the animal, making it harsh and rough. The most satisfactory way to afford protection is to confine the calf in a darkened stall during the day. Gunny sacks or strips of burlap should be nailed over windows and openings to exclude the light, but to allow at the same time as much circulation of air as possible. The number of flies can be materially decreased if early in the summer several pans containing fly poison are placed in and around the stall. A cup of sweet milk to which has been added a tablespoonful of formalin is a very satisfactory fly poison. In case the flies become very numerous, or it is impractical to darken the stall, the calf should be covered with a light burlap or cotton blanket." - R. R. Snapp, Animal Husbandry Department, U. of I.

Get Lambs Ready for the Market. "Lambs do not do well in hot weather. This is a common observation. Illinois lambs carried thru the summer to be marketed off grass in the fall are subjected to the ravages of stomach worms, dogs and maggots. In competition with uniform lots of lambs from the western ranges, Illinois lambs in the fall are usually under a great handicap. To avoid the heavy run of westerns, lambs should be fed out as soon as possible and marketed. Prices are good now.

Advice from Armour and Company is as follows: 'Only the fat lambs should be sent to market if the producer expects a satisfactory price for his crop. Mixed lots are discriminated against when uniform well-finished lots are available. Cull out the thin lambs, dock and castrate them and hold them on feed until properly fattened. Uniform lots of 60 to 70 pound lambs will usually command a price near the top of the market.'

Feel their ribs to find out if they are fat." - W. B. Kammlade, U. of I.

Shipping Association Improves Work. "The cooperative live stock shipping units are doing excellent work. During the past month they have shipped more cars of stock than during any month since in operation. Each local manager brings his master sheet to the Farm Bureau office after each shipment and does the necessary clerical work there. Thus the patrons of the shipping association are not only constantly reminded that the Farm Bureau is responsible for a better live stock marketing system, but it also enables the Farm Bureau to keep tab on the 'ups' and 'downs' of the whole live stock marketing situation of the county." - W. B. Bunn, Richland County.

Interest in Soybeans for Hogging Purposes. "Considerable interest has been shown in soybeans for the following uses: hogging down purposes, sowing for seed and for hay. I presume we will probably have an increase of 150 acres of soybeans for hay, while we will probably have an increase of 75 acres for seed, with an increase of about 3000 acres for hogging down purposes." - W. E. Hedgcock, Peoria County.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

June 27, 1923

No. 26

Club Tour Makes

Good Showing

The Club Tour to the University of Illinois on June 22, was sufficiently successful from the standpoint of attendance and interest to safely conclude that the project is worthy of being made an annual event. Altho the thermometer registered 95° in the shade during most of the day, 611 boys and girls, with their county club leaders were registered. In addition, there were probably 50 other juniors who were missed in the registration. At the noon hour approximately 400 vocational agricultural students joined in a picnic lunch, making a total of approximately 1000 young people that visited the University that day. Two boys from Whiteside county came a distance of 250 miles. Robert Knowles of Champaign county walked five miles to be present on the tour.

Nineteen counties were represented, the largest delegation coming from Shelby county, numbering 169. The rest of the counties with the number in their delegation is as follows: Bond 1, Champaign 60, Christian 39, Coles 50, De Witt 9, Douglas 15, Du Page 10, Ford 46, Macon 51, Macoupin 13, McLean 24, Morgan 18, Moultrie 3, Piatt 28, Vermilion 5, Whiteside 2, Woodford 24.

The day was opened by showing the two new club films, "Bill Jones Champion" taken at the Sioux City Fair last fall, and a "Letter to Dad", in the University Auditorium. The remainder of the day was spent in touring the various departments of the College of Agriculture and Home Economics Division where points of interest were inspected and demonstrations given for the benefit of club members. The demonstrations were outlined to give assistance to the boys and girls in carrying on their projects this year.

Little Effort Wins a Big Trip - "A total of 55 free trips are offered to individual club members of Illinois this year. Thirty-seven of these are trips to the National Club Congress, held in connection with the International Live Stock Exposition and are offered to the most outstanding boys and girls in club work this year in Illinois. In addition two trips to the International are awarded by the State Fair to the winning demonstration teams.

There are two demonstration and one judging team trip to the National Club Round Up at the Sioux City Inter-State Fair offered the champion Animal and Crop Demonstration, Home Making Demonstration and Live Stock Judging team. There is also a free trip offered to the National Dairy Exposition, Syracuse, New York, for the champion Dairy Judging team to be chosen at Aurora.

To become eligible for these trips, or be allowed to show their animals at the State and District Fairs, it is necessary that the club members' enrollment be in this office by July 1.

A number of enrollments have been sent in to date, but some of the counties have not responded. Remember! the enrollment of bona-fide club members should be in this office by July 1, in order to participate in any of the State contests. We want every county to be included and regularly enrolled for the year in order that none of their members may be disappointed should they wish to compete in any of these contests." - E. I. Pilchard, Club Work.

Pointers in Fitting and Showing Dairy Cattle - "Many times I have been in the dairy barns at county fairs and have observed the visitors looking over the exhibits. I have seen them stop before certain animals and exclaim, 'Isn't she a beauty?' I have also seen them pass others with the remark, 'I have better cattle at home.' This might be true and it might not be, but it means that some exhibitors, who probably had good cattle, did not make an effort to get them in condition. Too many exhibitors lead their cattle out of the pasture and take them to the fair without much attempt being made to get them ready. Such men are advertising their cattle and their breed, but is it the kind of advertising they want? Exhibitors must be willing to spend some time in preparation.

Select your animals at once. Begin early to teach them to lead readily and stand squarely on their feet so they will pose to best advantage in the show ring. Frequent handling is necessary. One month before the show clip the animals all over. From this time on keep them in a comfortable stall and do not allow them to be out of doors in the hot sun. Blanket the animals heavily. Later on the heavy blankets may be replaced by lighter ones. Darken the barn to keep out the flies. About two weeks before the show give the animals a good washing. If time permits they should be groomed every morning from this time on. Just before the show clip the head, neck, withers, belly, udder, and tail. After the clipping a thorough rub-down with sand paper will cause the hair to lie close to the body. Get the horns in shape by first using a rasp to take the rough scaly portion off. Next scrape the horns with broken glass or a steel scraper; following with common sand paper, then with emery paper. Then take strips of cotton flannel and see-saw the horns, using a little pumice stone and sweet oil. A good polish can be put on in this manner. Milk out clean the night before the show and not again until after the show. A satisfactory grain mixture is 10 parts bran, 5 parts oats, 2 parts ground corn, 2 parts oil meal. Add one peck of salt to the grain mixture. Feed plenty of alfalfa or clover hay. Give the animals plenty of water from your own containers. Keep the stalls neat and clean at all times. Make your exhibit as attractive as possible. The visitors will appreciate it.

Place a neat sign over your exhibit, giving the name of the farm and the owner. Some one should be near at all times to show the cattle to the visitors and answer questions that may be asked." - C. S. Rhode, U. of I.

Getting the Mice - "Preparation: Mix together, dry, $1/8$ ounce of powdered strychnine and $1/8$ ounce baking soda. Sift the strychnine-soda mixture over 1 quart of rolled oats, stirring constantly to insure an even distribution of the poison thru the grain. Heat the poisoned rolled oats in an oven until thoroly warm. Mix 3 parts of the melted beef fat with 1 part of melted paraffin, and sprinkle 6 tablespoonfuls of this mixture over the warm poisoned rolled oats, mixing until the oats are evenly coated. Allow the grain to cool, when it is ready for use. If large quantities of the bait are needed, use 1 ounce of strychnine, 1 ounce of soda, 8 quarts of rolled oats, and $1\frac{1}{2}$ pints of the beef-fat-paraffin mixture.

It is very important that in applying the coating the beef-fat-paraffin mixture be hot and the poisoned rolled oats be thoroly warm, otherwise it will not be possible to obtain an even coating.

Distribution: Tablespoonful quantities of the poisoned rolled-oat baits should be placed in small containers to protect them from the weather. Containers should consist of small, drain tile, large mouthed jars, or bottles laid on the sides, or wooden boxes open at the end. Place where mice are abundant and where the bait will not be eaten by other animals.

Caution: All poisoned baits and poison containers and utensils used in the preparation of poisoned baits should be kept plainly labeled and out of reach of children, irresponsible persons, and live stock.

This formula, known as the Rolled Oats Formula, is one recently developed by the United States Biological Survey, and is said to be very effective." - W. P. Flint, Entomology Dept., U. of I.

Farm Bureau Fair Exhibits - "Judging from the experiences of the farm advisers the past few years, a farm bureau exhibit at local community or county fairs is a project worth while. Last year exhibits were made at 66 fairs and reports indicate that the results were abundantly worth while. One farm adviser sums up the results as follows:

'The Farm Bureau exhibit at the County Fair is what I consider the most profitable work of the year. Considerable time and effort has been spent each year in preparing a worth while exhibit. Considering the number of people reached and the opportunity to go into details with interested folks leads me to believe that it is one of the best opportunities for service which a farm adviser has where there is a good live fair in his county.'

Farm advisers are often called upon to assist the local fair officials in working out premium lists, selecting judges and arranging various events. In return the Fair Boards should be willing to cooperate by providing quarters for a farm bureau exhibit, offering special classes and premiums for county exhibits and providing space and judges for junior club entries. The following is a list of suggestions for those contemplating farm bureau exhibits:

1. Choose a few good exhibits carrying the lessons you wish to get across.
 - (a) A few exhibits carefully made up are far better than a large number poorly done.
 - (b) You may have one from soils, crops, live stock, etc., or possibly two from the department which needs the most emphasis.
 - (c) Work out the plan so it will tell the story vividly and correctly.
 - (d) Incorporate local data and results wherever possible.
 - (e) Make exhibits fit conditions in the county.
2. Make up your exhibit from materials which are striking and attractive.
3. Arrange your exhibits -
 - (a) In proper sequence - related subjects together,
 - (b) With sufficient lighting,
 - (c) In such a way that full significance will be gained.
4. Have a special farm bureau room or tent.
 - (a) If conditions warrant move your office to the fair, put office secretary in charge.
 - (b) Give out one or two pieces of best farm bureau literature, or better, print a special booklet for the occasion.
5. Urge people to come to tent and make them feel at home and welcome.
6. Provide some chairs and seats where people may rest and talk; cold, sanitary drinking water; a checking stand where lunches, wraps, and bundles may be left.
7. Meet people personally and be in a position to discuss their problems with them.
8. Have farm bureau officers or leaders in charge of certain departments, exhibits, or for personal conferences.
9. Have a large sign at entrance of tent - "Visit the Farm Bureau".
10. Use farm bureau movie in tent -
 - (a) With hooded screen if light is too strong.
 - (b) Arrange 50 to 100 chairs so that the audience may be seated.
 - (c) Run three or four reels, then stop the pictures until the audience has moved and another is gathered.
11. Radio connection in some instances might be a drawing card.

In counties where projects have been outlined which require progress reports the County Fair provides a good opportunity to secure this information. Notices should be sent to the cooperators previous to the Fair urging them to come to the farm bureau tent and fill out the blanks provided. Certain kinds of surveys can be made in this way and information obtained regarding conditions in the county without the loss of much time." - W. H. Smith.

The Extension Messenger

A series of brief notes from the Farm Advisers, College
and Experiment Station Workers and
the State Leader's Office

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

July 4, 1923.

No. 27

State Picnic "Farmers must produce what the consumer demands", was the message of Sidney Anderson, Congressman from Minnesota and Chairman of the Joint Commission of Agricultural Inquiry, to the farmers of Illinois at the fifth annual I. A. A. picnic at Urbana last Friday.

Mr. Anderson looks for better conditions in the marketing of agricultural products, first, because there is no more cheap agricultural land, and, second, because of the shifting of the farm population to the cities. He pointed out that cooperative marketing would never succeed just because it was labelled cooperative, but that farm products must be standardized, uniform quality must be produced and the entire marketing service from producer to consumer must be rendered better than at present. The middleman will always be with us and to secure the best returns from their efforts farmers must grow the varieties of wheat that will produce the kind of flour that the miller and the consumer call for and raise the type of hogs that will yield the quality of bacon the packer and consumer demand.

Mrs. A. E. Brigden, President of the New York State Federation of Home Bureaus, had a real message for the farmers of Illinois in her address "Rural Women's Opportunity".

DeWitt County again carried off the honors in the Horse Shoe Pitching Contest. Torbett Brothers, sons of one of the winners of the cup last year, were the representatives.

One of the appreciated features of the picnic was the supervised play under the direction of the Department of Physical Education of the University. Twenty-five young women were in charge of the 500 farm boys and girls who were on the playground in the afternoon. The rest tent for women and children was highly appreciated and over 30,000 pieces of literature were distributed.

Friday morning and following the afternoon program hundreds of visitors took advantage of University Open House and inspected the experimental work and live stock of the College and Experiment Station.

Arrangements for the picnic were in charge of the Champaign County Farm Bureau, the City of Urbana, and representatives from the University cooperating. The estimated attendance at the picnic was 7,000.

Some Comments - "It was a fine picnic from start to finish. Everything was kept moving and folks seemed at home."

-Anderson's talk showed that he had not served as chairman of the Agricultural Commission in vain."

-Mrs. Bridgen's address convinced me that we need a Home Bureau in Ford County."

-Supervised play was a real service. We could forget our children for two hours and be assured they were safe and having a good time."

-"Every boy or girl who won a ribbon in the supervised play contest carried his head just a little higher."

-The Champaign County Farm Bureau wants the picnic here as an annual affair."

-The Harmony Quartet was worth coming forty miles to hear."

Open House Well Attended - The faculty of the College of Agriculture feel that the Agricultural Open House, held in connection with the Illinois Agricultural Association picnic, June 28-29-30, 1923, was a marked success from the standpoint of attendance and interest. An unusually large number of people visited the University for the first time coming from many different localities. A conservative estimate places the number at about 2,000 people who visited the University and Experiment Station plots. There would have been many more, especially on the first day, had there not been a heavy rain the night preceding making the dirt roads almost impassable.

Visiting parties were conducted in groups of from 50-75 people over the south campus, visiting the Morrow and Davenport Plots, the Floriculture and Vegetable Gardens, the Farm Mechanics Building, and the Pure Bred Dairy Barns. The automobiles then proceeded to the South Farm, stopping at the Horticultural Field Laboratory, driving thru the Horticultural grounds, to the Round Dairy Barns, thence to the Agronomy South Farm, where the plots showed up most interestingly and were explained by guides stationed there. The groups then visited the Swine and Beef Cattle Barns, returning to the campus by way of the Stadium site, stopping at the Armory. They then proceeded thru the campus and were dispersed at Wesley Foundation, the entire itinerary taking about three hours time.

From the interest manifested in Agricultural Open House it has become an established feature of the work of the Agricultural College and Station.

Orderly Marketing as Compared with Orderly Milling of Wheat Storage is one of the essential marketing services. Storage of wheat on farm, in elevator or mill is necessary to the orderly milling of wheat. As pointed out by Dr. Theodore Macklin in his book "Efficient Marketing for Agriculture", storage serves to bring about regularity in the operation and output of mills, as indicated in the following table:

Farm Movement and Mill Consumption of Wheat		
Month	Wheat Receipts From Farms in Per Cent	Mill Grind of Wheat in Per Cent
July.....	14.4	4.4
August.....	23.4	9.3
September.....	18.7	9.3
October.....	16.1	10.6
November.....	7.8	8.3
December.....	7.0	9.0
January.....	4.8	9.9
February.....	2.4	6.5
March.....	1.5	7.7
April.....	1.1	8.8
May.....	1.6	10.3
June.....	1.2	5.9
TOTAL - - - - -	100.0 ²	100.00 ³

2 Represents 730,061,000 bushels of wheat.

3 Represents 593,058,000 bushels of wheat.

Pioneer Adviser Resigns - C. H. Oathout, Farm Adviser for Champaign County for the past ten years will leave the service September 1. C. C. Burns, formerly Adviser in JoDaviess County has been secured to fill Mr. Oathout's position.

"Plan Now for Next Year's Legumes - The successful growing of legumes on many Illinois farms requires careful planning, some time in advance of the time when the crop is desired. A crop of sweet clover, for instance, to be used either as hay or forage during the summer and fall of 1924, or as green manure or forage in 1925, should be planned for within the next few weeks or the effort to produce it will likely result in failure. In a similar manner, to a greater or less extent, alfalfa and the common clovers demand the same attention. Because farmers generally fail to give the growing of legumes these preliminary precautions, failures are frequent.

The chief reason for the frequent failures of legumes in Illinois is the increasing acidity of the soil. This condition is due in great part to the general practices of agriculture, which tend to dissipate available calcium thru the loss of lime materials. With the development of this condition it becomes difficult for legumes to get all the calcium they need, and as a result they do poorly or fail to grow at all. If such soils are replenished with sufficient calcium in the form of limestone, it becomes possible for them again to produce good crops of the various legumes. The limestone needed should usually be applied and worked into the surface soil sometime in advance of the legume seeding in order to properly prepare the soil for the legume. An ideal time to do this is in the preparation of the seed bed for fall seeded grains. A knowledge of the presence of acidity and the purchase and application of limestone at the proper time are, therefore, prerequisites for the successful growing of legumes. Farmers contemplating the seeding of biennial legumes in fall seeded grains, during the spring of 1924, should within the next few weeks have their fields tested for acidity, and if necessary place their orders for limestone so that they may have it on hand in plenty of time for use this fall. Unless these precautions are taken much legume seed will be wasted next spring and many farmers will be without clovers during the season of 1925." - F. C. Bauer

Massac Will Have Legumes in 1925 - "We unloaded another trainload of limestone this last week. It was shipped in the side bottom dump cars and dumped along the right of way of the main line of the I. C. along the farms. This is the fifth trainload which we have handled by this method during the two years that the farm bureau has been in existence.

The Canadian Pacific Railway Company sent one of their photographers here from Montreal, Canada, and the Lehigh Stone Company also sent their extension representative, Mr. C. C. Logan, with a camera man to take moving pictures of the train and our method of unloading." - O. M. McGhee, Massac Co.

Feeding Immature Corn to Swine - "In a swine feeding test to determine the influence of the degree of maturity of corn on the economy of gains, it was found that practically the same amount of moisture-free feed was required to produce 100 pounds of gain, whether the corn was mature or immature and sappy. The yield of moisture-free corn harvested one, two, and three weeks before it was ready to go into the shock was only 91.7, 82.8, and 56.5 percent, respectively, of what it was at cutting time. At these rates, corn yielding 50 bushels at the proper time for cutting would have yielded 46, 41, and 28 bushels if harvested one, two, or three weeks earlier. From this it will be seen that an immense loss results from turning hogs into corn very long before it is mature." - Ohio Agricultural Experiment Station, Bulletin 362.

Producers Help Organize Shipping Assn. - "With the assistance of J. E. Jennings of the Producers Live Stock Commission Co. on June 8 we organized a Live Stock Shipping Association at Greenfield. This is one of the best shipping points in our county. Most of the live stock handled by the new association will doubtless be sent to the producers." - E. M. Phillips, Greene County.



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Vol. VI

July 11, 1923.

No. 28

Wasted Soil Resources

Mean

Race Extinction

"Every year there is an unnecessary waste from erosion of more than 400,000,000 tons of soil material, an amount greater than that removed in digging the Panama Canal." If this statement, taken from the 1916 United States Department of Agriculture Year Book, isn't shocking enough, perhaps the following made by Dr. N. S. Shaler, formerly Dean of the Lawrence Scientific School, is. "We must look forward to the time, remote as it may be, yet clearly discernible, when our kind having wasted its greatest inheritance, will fade from the earth because of the ruin it has accomplished." We must save our soil to avoid such a calamity.

"Illinois already has its share of abandoned farms caused by soil erosion, and thousands of acres now being farmed with little returns will soon be added to the abandoned area, unless immediate steps are taken to prevent further erosion. There are few if any, abandoned farms that cannot be reclaimed profitably. In the southern states the Mangum, or broad base terrace has been used since 1885. Its continued use proves its success. J. C. B. Heaton, President of the Johnson County Farm Bureau, has said in part, 'For the land's sake, let us arouse ourselves, get thoroly awake, look about us with a critical eye, and see if our farming conditions are what in our judgment, are best for us and those who are to come after us. If they are not the best, or as good as the best, let us seek a remedy and apply it.'

"Every county in Illinois which has any eroded land could profitably have at least one field terraced for demonstrational purposes. Nine counties have such fields and 12 advisers from other counties have indicated that they are planning terracing demonstrations for this fall." - F. P. Hanson, Dept. of Farm Mech. U. of I.

"Sweet clover pastures are becoming popular as hog pastures as well as for cows, horses, and mules. Our farmers are beginning to realize the value of sweet clover for pasture. One of our farmers has a fine hog pasture on volunteer sweet clover coming up from last year's seed crop." - H. A. deWerff, Franklin Co.

Bank Backs Bureau - "The Farrell State Bank backed the Ton Litter Project with \$175 in prize money. The Elliott State Bank is backing the Pig Feeding contest for boys and girls with a \$100 prize. This is the first year that we have ever had banks get squarely behind farm bureau projects of this sort." - G. B. Kendall, Morgan County.

Tri County Picnic - "The Aurora Chamber of Commerce extended an invitation to Kane, DuPage, and Kendall County Farm Bureaus to be their guests at a tri-county farm bureau picnic on June 19. The Bureaus cooperated with the Chamber in planning and conducting the events of the day. The chamber provided as a speaker, Mr. Thiehoff, General Manager of the C. B. & Q. R.R. He spoke on the relationship of the railroads to the farmer and gave some very important information that it is well for the farmer to know, and which he generally does not know. I believe a joint picnic of this kind is a profitable departure compared to the annual individual county farm bureau picnic. It gives the farmers of the several counties involved an opportunity to meet each other and compare notes." - W. B. Richards, Kane Co.

Club Work Worth
While in
Farm Bureau Program

"Enrollments in all the Boys' and Girls' Clubs to be organized this spring closed July 1. No members are enrolled this year except in organized local clubs. Following are the number of local clubs with enrollment in each project:

Nine clothing clubs, enrollment - - - - -	143
Seven pig clubs, enrollment - - - - -	85
Six poultry clubs, enrollment - - - - -	102
One county strawberry club, enrollment - - - -	7
Total Enrollment	337

Townships represented by club work this year are: Moveaqua, Penn, Rural, Ridge, Todds' Point, Rose, Okaw, Shelbyville, Windsor, Richland, Ash Grove, Big Spring, Prairie, Clarksburg, Oconee, Holland - a total of 19 out of the 24 townships in the county. There is still much greater opportunity for club work to serve the agricultural interests of Shelby County. There are over 175 young men and women who set up new farm homes and begin farming each year in Shelby County, replacing an equal number of farmers who are retiring each year. This means an annual turnover of over 350 in the county. Since most club members are in club work from 2 to 4 years, the average annual enrollment should run between 700 and 1400 to be of greatest benefit.

If the present club program is continued, new clubs will be organized this fall in corn raising, sheep, sow and litter, baby beef, dairy calf, and egg production. The addition of these new projects should provide such a variety that the interests of every boy and girl will be represented. A recent survey shows that some of our clubs have not adopted a program of work which suggests that one of our lines of activities in the immediate future will be to have programs adopted in all the clubs and see that they otherwise meet the requirements of the standard clubs. Shelby County is trying to be a 100% standard club county." - R. H. Taylor, Shelby Co.

Wool Production
as Compared With
Wool Consumption

With 93.2% of wool produced and marketed in 120 days, 68.7% in the two months of July and August, wool storage is a necessary factor in stabilizing the operation of woolen mills. Storage under the control of the grower enables the grower to feed instead of flood the mills and market with his product. The following table is from Macklin's "Efficient Marketing for Agriculture":

Monthly Wool Consumption in the United States (1)

Month	Monthly Wool Production in Percent (2)	Monthly Wool Consumption in Percent (3)
January . . . . .	.3	8.8
February . . . . .	.1	7.7
March . . . . .	.2	8.7
April	negligible	9.1
May	1.9	9.3
June	12.9	8.4
July	33.0	8.1
August	35.7	7.9
September	11.6	7.8
October	2.3	8.4
November	1.1	8.1
December . . . . .	.9	7.7
Total	100.0	100.0

1. Data from U.S.D.A. Bureau of Markets, The Market Reporter, Vol. II No. 24, p. 369.

3. Average for years 1918 to 1920.

2. Data from National Wool Warehouse and Storage Co., Chicago.

Good Demonstrations. "In defining cooperative agricultural extension work, and in outlining the methods to be used in carrying on such work, the Smith-Lever Act recognized the fundamental importance of field demonstrations. Ten year's work under this Act have fully confirmed the judgment of those who recognized this as an approved method of Extension teaching." - J. D. Bilsborrow.

An Established Method of Extension Teaching - "Excellent demonstrations of the effect of the application of limestone and rock phosphate were shown in various parts of the county on our demonstration trips. Some of the crops indicated that yield could be doubled due to the proper application of rock phosphate. Unfortunately, the attendance was poor owing to the shortage of farm labor and the rush of work in tending corn on the farms.

The demonstration trip taken thru McLean County on the hog sanitation tour was very profitable, altho the attendance from Livingston County was not large. To successfully produce hogs we feel that more attention should be given to sanitation by hog growers." - H. O. Allison, Livingston County.

Soils and Live Stock - "A demonstration meeting was held at the Mt. Morris Experiment Field showing the results of the use of limestone and phosphate and the growing of alfalfa. This meeting aroused considerable interest and served to strengthen our arguments in favor of limestone and alfalfa. We have been constantly calling farmers' attention to the condition we find prevailing this year, viz: the farmers who are growing alfalfa have an abundant hay crop while those who do not attempt to grow it find themselves very short on roughage. Nothing has served to stimulate alfalfa production as much as this fact and the acreage this year will be doubled; it also means that a large amount of limestone will be used." - G. T. Snyder, Ogle County.

Lime and Alfalfa - "Noticeable accomplishments have been made on several important projects the past month. On June 20 we held our second annual sweet clover tour of the county. Professor H. D. Hughes of the Iowa State College, prominent sweet clover authority, was one of our guests. In addition we had nine well known seed companies of the states of Iowa, Wisconsin, and Illinois represented. There were 150 Grundy County farmers who made the trip, which included 11 stops. A good variety of material was shown which included good and bad practices with sweet clover.

Sweet Clover & Poultry Tours - "On June 29 we made our annual poultry tour of the county. This included six stops. In addition to the well managed flocks on which accurate poultry records from January 1 were shown, we had demonstrations on killing, picking, and dressing fowls for table use, comparison of good and poor market carcasses of poultry, a demonstration in which a typical tubercular fowl was dissected and a caponizing demonstration. Considerable equipment was shown, including some good types of poultry houses. At one place an excellent flock was seen that was managed with very little investment in equipment." - F. E. Longmire, Grundy County.

Community Demonstration - "Farm Bureau Community Meetings have been organized in Flat Branch township. This includes families from Moweaqua, Penn, and Pickaway townships. Instead of having called meetings two or three times a year, regular monthly meetings are now held. Farm Bureau township officers from Flat Branch township preside. At a call meeting in April the Farm Adviser induced the people to try out regular monthly meetings. Accordingly, in May a program was put on by local talent. In June movies were shown by the advisers. The July meeting will again be local talent. This particular community seemed to be lacking in wholesome entertainment. Consequently, we are trying out the idea of the Farm Bureau supplying the need. We recognize the danger of the recreative or entertainment feature dominating to the possible exclusion of the Farm Bureau business and educational side. However, this can be avoided." - C. J. Robinson, Shelby Co.



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July 18, 1923

No. 29

A Fair Lease For Owner and Tenant

"A farm lease is frequently unjust to one of the two parties concerned. This may be due to the tendency to follow custom without giving recognition to differences existing between farms. Such injustice is most apt to occur when one or both of the parties are not familiar with the community or the farm in question. The farm lease in setting forth the conditions and terms under which a farm is leased should meet two needs: (1) it should provide for a profitable system of farming, and (2) it should provide for a fair division of the farm income between the tenant and landowner. It should be readily recognized that the proportion of tillable land; the condition of the soil; the amount, kind, and condition of permanent equipment, and like factors make some farms much more desirable than others because of the differences in actual productivity and opportunity for profit. Likewise the contributions of the land owners in land and improvements are quite different when evaluated on the acreage basis. The larger investments in improvements on many farms if well invested should make it possible for the tenant to secure larger profits, and the lease should be so drawn as to give the landowner a just return for the use of such improvements.

Under this variety of conditions which farm leases should meet, it is advisable that a proposed lease be tested out to determine whether or not it seems equitable to both parties. A method of testing a proposed lease is to take a typical farm business record which approximates conditions on the farm in question and to distribute all items of expense to the two parties in accordance with the provisions of the proposed lease. There may be recognized differences in the two farms which will make it necessary to estimate part of the expenses on the basis of the expenses as they occurred in the actual farm record. The actual farm record gives a basis of estimating items and serves as a guide to insure the inclusion of all items of expense normally occurring in the operation of a farm. In making the estimate of the contributions of both parties, such items as the value of the operator's own labor, value of labor of members of the family, interest on the investment in the farm and equipment, and depreciation on all improvements and equipment, as well as actual cash expenses, should be taken into account. Such a test of a proposed lease may avoid difficulties which frequently arise when it is discovered that a lease is not equitable. To be equitable, the farm income should be divided between the tenant and landowner on the same basis that they contribute to the annual farm expenses." - H. C. M. Case, Farm Management Department.

"Demonstration and Judging Contests to be held at the Central States Fair, August 17-25, and the Illinois State Fair, September 15-22, are causing much interest in this work over the state.

Several teams have already signified their intention of competing. As only a limited amount of money is available for expenses of these teams, it is apparent that some elimination contests are necessary. It is important that every county notify the State Leader immediately (1) if a demonstration or judging team is being trained for either of these contests, (2) if a demonstration, what subject is being used, (3) if a judging team whether general live stock or dairy.

Progress in T. B.

"At a meeting of the County Board of Supervisors on June 13, we secured an appropriation of \$4500 per annum for a two year period to put on the area plan of T. B. eradication." - C. H. Belting, Mercer County.

Eradication Work

"Fifty-one members of the board voted unanimously for the \$5000 appropriation to employ a county veterinarian to take charge of the eradication of bovine tuberculosis in cattle." - J. E. Hedgcock, Peoria county.

"A significant accomplishment cumulated this month was a county appropriation of \$4000 by the Board of Supervisors for the eradication of tuberculosis in cattle." - Melvin Thomas, Coles County.

"On June 13th the Farm Bureau committee met with the supervisors and asked for an appropriation of \$4000 to carry on the T. B. work. All but three supervisors voted for the appropriation. One man who had been opposed to the work voted for the appropriation." - J. C. Kline, Boone County.

"The area method of T. B. eradication among live stock was presented to our County Board of Supervisors on June 11. H. R. Davison from the Chicago Live Stock Exchange was present at this hearing. The supervisors voted not to make the appropriation this year but deemed it wise to wait and see how neighboring counties got along this year." - A. A. Olsen, Warren County.

"The biggest piece of work the Farm Adviser has done this month and probably this year was working up a sentiment in the county in favor of eradicating bovine tuberculosis. On June 11 the Board of Supervisors voted \$4000 to cooperate with the State and Federal Governments in this work." - C. E. Hay, Christian County.

"Although this county has not yet appropriated any funds for the employment of a county veterinarian we now have 29 herds under Federal Supervision. We have recently completed a test on some of these herds the results of which now give us 20 herds that have passed their first clean test besides 4 that are accredited with chances for a few more to follow shortly. We believe that this gives us the foundation for the organization of a good live County Holstein Breeders' Association. We expect to organize this association during July and probably conduct a sale under its auspices this fall." - C. H. Rehling, Clinton County.

"A Committee from the Farm Bureau Executive Committee appeared before the County Board of Supervisors at its June meeting to ask for an appropriation to be used in tuberculosis eradication work on the area plan. The matter was referred to the Finance Committee and this committee will report at its meeting in September. A number of the Supervisors have been interviewed personally and seem to be favorably impressed with the importance of this work." - F. A. Gougler, Adams County.

"Thirty seven reactors were found in a herd of fifty dairy cattle at the Knox County farm early in the month. One animal was taken to Aledo for public demonstration and three were slaughtered at a public demonstration at the County farm, June 20, with Dr. J. J. Lintner in charge. Between seven and eight hundred people were convinced of the importance of eradicating this disease from our live stock. About 10% of the cattle tested within the county up to date have been reactors. A county inspector will begin work in July." - L. F. Marchant, Knox County.

"The McHenry County Board met on June 11. They were requested to make an appropriation of \$4000 for the hiring of a county veterinarian to conduct tuberculin tests. The proposition was voted down by a vote of ten to five. On June 19, representative farmers, newspaper men and representatives of the Board of Supervisors met to discuss the local situation regarding T. B. eradication work. This group of forty men started a movement for a special meeting of the County Board to reconsider their action. A petition was signed by the men present and then circulated over the county. The most influential bankers, business and professional men and farmers in every part of the county signed the petition requesting the Board to make an appropriation of \$4000 for the tuberculosis eradication work. A call for a special meeting of the Board was sent out, such meeting to be held on July 3." - A. J. Gafke, McHenry County.

Farm Bureau's
Promote
Improved Relationship

"The Granite City Commercial Club invited the farmers of their adjacent territory to attend their club meeting on June 7. About 137 men were present, of whom one-third were farmers. The club held its regular meeting after which they had an address by Mr. E. Gengenbach of the St. Louis Chamber of Commerce. A number of farmers responded with talks. The meeting as a whole resulted in a much better feeling between the two groups inasmuch as the farmers recognized that the Commercial Club had about the same problems which their own organization faced, namely, trying to improve the conditions in the town, the indifference of members, failure to pay dues, difficulty in getting the railroads to do as they ought to, in fact the whole meeting showed up that the difference between the two organizations was mostly that in degree, rather than in different problems. We feel that the meeting has greatly advanced the fellowship between our farmers and the men at Granite City." - Alfred Raut, Madison County.

Club Work Unites Farmer and Business Man - The business men of Kankakee County have put up \$10 each and have gone into partnership with the 249 boys and girls in the pig club. The boys and girls put up \$2 as insurance in case the pig died, so he would get another pig or the business man get back his \$10. The business man has agreed to visit the boy or girl three times during the year and the boy or girl has agreed to visit the business man three times at his place of business to get acquainted with him. Some of the business men will have to drive about 40 miles to visit their partners.

The men are planning to have a banquet for the boys and girls one night during the Fair. The good feeling that exists between the boys and girls and the business men is a thing to be admired, and we believe this will be the means of not only raising better live stock but of promoting a more sympathetic relation between farming and business interests." - J. S. Collier, Kankakee County.

Club Camp at Aurora - "All information points to the fact that approximately 200 boys and girls will stay at the Club Camp at the Central States Fair this year. The camp will be located immediately back of the main entrance." - E. I. Pilchard.

Bring Wheat to Aurora - "The Central States Fair at Aurora is offering \$518 in cash prizes for wheat at the coming exposition. The Grand Champion sample will receive \$35. There are three classes for certified seed wheat and three for non-certified seed in which 65 unusually liberal cash prizes are offered. These attractive prizes are expected to draw the largest wheat show ever held in Illinois. Entries close August 6." - J. C. Hackleman.

Poultry Thieves Beware - "Chicken stealing has become such a common practice in this section of the state that farmers are organizing local branches of the Illinois Detective Association for the purpose of protecting themselves against this nuisance. At a joint meeting of three of these locals the Farm Adviser was asked to be present and a request was made of the Farm Bureau to compile a list of at least Farm Bureau members together with the breed of poultry raised so that when suspicious lots of poultry are located at some poultry or produce house that it will be easier to find out who may have lost poultry. These associations have caught two thieves; one was indicted by the Grand Jury, the other one broke jail and made his escape. The work of these organizations will at least throw fear into the heart of the amateur." - L. W. Wise, Iroquois County.

Have You a Project With a Goal? - "Where this year we had 61 farmers using sweet clover, we are almost sure of reaching our goal of 200 farmers sowing sweet clover in Jersey County in 1924." - R. L. Eyman, Jersey County.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

July 25, 1923

No. 30

Shall We Feed Wheat?

"Cheap wheat and oats may profitably replace part of the high-priced corn for feeding. When corn is worth 75 cents per bushel the common grains and millfeeds have approximately the feeding values given below, provided they are used in suitable forms and amounts and are judiciously combined with other feeds. The cost of such grinding of small grains as may be necessary, has been deducted in preparing these figures, except for dairy cattle which need the corn ground.

Comparative feeding values of grain per bushel and millfeed per ton,
based on corn at 75 cents

	Horses	Beef Cattle	Dairy Cattle	Sheep	Hogs
Corn	\$.75	\$.75	\$.75	\$.75	\$.75
Wheat	.75	.75	.80	.78	.75
Rye			.70		.70
Barley	.64	.61	.64	.51	.58
Oats	.43	.40	.39	.33	.35
Soybeans		1.90	1.65	1.65	1.75
White middlings			27.00		32.00
Bran	27.00	27.00	27.00	27.00	

Wheat and rye should be ground for horses and cattle and usually it pays to grind them for hogs. Barley should be crushed or ground. Wheat can be used as only a part of the ration for horses, and oats as a part ration for hogs, or fattening cattle. Soybeans should be used in about the same circumstances and amounts as oilmeal, cottonseed meal or tankage." - E. T. Robbins and C. S. Rhode, U. of I.

Group Meetings Conserve Adviser's Time - "On Roy Beckett's farm there was a splendid demonstration of what limestone would do for growing both red and sweet clover. One half of one field had been treated with 2 tons of ground limestone. This half had an abundance of both red and sweet clover growing on it while the other half receiving no limestone had a poor stand of both. We are planning to have a limestone demonstration day at this place some time in September. The great value of this work lies in the fact that information concerning soil building has reached some people in every part of the county. More people were reached by holding these group meetings than could have been reached by making individual farm visits the same length of time." - A. A. Olsen, Warren County.

Limestone Promotes

"Our two portable limestone crushers are delivering 1000 tons of stone a month to the farms of Stephenson county" was the statement of farm adviser G. F. Baumeister in an interview last week.

Efficient Marketing

The golden yellow dust comes from the crusher as grain from a thresher. Two Ford trucks with dump beds deliver the stone direct to the field where it is used. Service - direct delivery - is in Baumeister's mind the principal reason why 200 farm bureau members have participated in the project. Many are now making plans to cover their entire farm systematically.

Alfalfa fields, mostly Grimm, are now common in Stephenson county, it being estimated that 1500 acres of new seeding were planted this year. One grower sold his first crop for \$20 per acre, has an offer of \$20 for the second crop which is about to be harvested, with a third crop in prospect.

The objection sometimes heard against the use of lime, or growing of legumes - "Don't talk production, we are producing too much already" - has lost its force in Stephenson county. Alfalfa grown on limed soils will cut the cost of production of milk, meat and grain for these farmers.

The Stephenson county limestone project is not only a project in increased production but fundamentally a project in lower cost of production. Low first cost is the first step in efficient marketing." - J. D. Bilsborrow.

Elevators Distribute Limestone - "The outstanding feature of the Farm Bureau work this month has been the development of limestone distributing agencies at the various stations thruout the county. We have asked elevator and lumber dealers to handle the limestone for us and in practically every case they have agreed to handle limestone at cost. We are expecting to have a supply of limestone available for farmers in the county before the season for buying limestone this fall arrives." I. A. Madden, Sangamon County.

Interest in Club Work Increasing - "Enrollments which have recently been received from the counties conducting projects in Junior Club Work show that nine counties are carrying on club projects for the first time. It is interesting to note that eight of these nine counties have no assistant adviser. Nine other counties have taken up club work after having dropped it for a year.

The total enrollment for the animal and crop projects is 3641. The girls enrolled in canning and home making projects will probably total about 1500. Such being the case, the total enrollment for club work in Illinois will no doubt be approximately 5000 members.

The most popular project is the Fat Barrow and Pure Bred Gilt Club, with an enrollment of 1487. Practically all the animals in this project are pure breds. The poultry club project is next in popularity with 669 boys and girls enrolled. The Sow and Litter project is third in rank of popularity. We have one alfalfa club in Logan county, one farm management club in Morgan county, a soybean club in Bond county and a colt club in Champaign county and in Logan county.

Coles county ranks highest in members in the animal and crop projects with a total of 285 enrolled. Shelby county ranks second with 202 members and McLean third with 193. A complete statistical report on club enrollments will be published at a later date.

The enrollment is less in some counties this year due to the fact that they have lost the services of an assistant adviser. However, the situation as a whole is very gratifying. Counties are realizing more each year that more appreciable results are to be obtained by 'putting over' an extension program thru the young folks. Club work is not separate from the Farm Bureau Program, it is a very effective medium for carrying out a Farm Bureau Program." - E. I. Pilchard, Club Work.

University of Illinois
Veterinary Conference

The fourth annual University of Illinois Veterinary Conference which was held in connection with the State Association Meeting has passed into history. One hundred and forty veterinarians were present. These men returned to their respective communities better able to meet

the perplexing problems of live stock disease. If the veterinarians from your county did not attend, they missed something worth while. If any veterinarians were unavoidably detained, we are sorry.

Dr. David S. White speaking of "The Veterinary Profession":--"So long as there is a nation there must be agriculture, so long as there is agriculture, there must be animal husbandry, and so long as there is animal husbandry, there must be veterinarians. I have never felt alarmed at what the 'quacks', fakers and their like would do to us as a profession. They are to me as innocuous as the Red man of the sagebrush and cactus would be should he attempt by force to recapture from the 'pale face' of America his lost hunting grounds. Our history shows that as a profession we have made good. Our country tho often threatened has been kept remarkably free from animal plagues."

Professor H. P. Rusk in discussing the "Relation of Veterinarian to Agriculture":--"As a layman I am much concerned for the continued advancement of the veterinary profession. I most earnestly commend to the live stock producers the thought that we will best serve our own interests by an adequate appreciation of competent veterinary service and by offering inducements that will not only hold the good men in the service, but will attract more good young men to the profession."

Dr. W. H. Welch, President of the American Veterinary Medical Association, in outlining some of the functions of the veterinary profession:--"Beginning with sanitation and animal husbandry we must first acquire an intimate acquaintance of our animals in perfect health, and learn the art of keeping them in that condition, if we are to convince the stockman that we possess superior knowledge in this field."

Dr. J. H. Beard, University Health Officer remarked on the "Relation of the Veterinarian to Human Health":--"The versatility of bacteria in passing the barriers of species, the cooperation of animals and man in the preservation of parasites by mutually contributing to their life cycle, the role of insects in conveying organisms from diseased animal reservoirs to man, and the effect of the nutrition and the poisoning of animals upon their milk and meat, are conditions that demand the united efforts of veterinary and human medicine in the comparative study of disease and in the preservation of public health."

Dr. N. S. Mayo, in speaking of the "Relation of the Civil Veterinary Profession to the Army Veterinary Service":--"War is only one phase of the eternal struggle for existence. That this struggle will continue as long as life exists is as certain as the law of gravity. The only way to reduce suffering and human agony is to be prepared."

Dr. C. P. Fitch, of the University of Minnesota, speaking on "Present Status of Bovine Infectious Abortion":--"There is no royal road looking toward the conquering of this infection. It is going to be a long pull and a hard pull. We are making progress, but true this progress is very slow. The practitioner must put his shoulder to the wheel, and aid in the education of the public, particularly the live stock owning public in the extent of loss, resulting from this infection, and the means of the prevention of its spread."

Mosher Joins Extension Force - Mr. M. L. Mosher, who for seven years served as farm adviser in Woodford county, has accepted the position of Extension specialist in Farm Organization and Management, taking the position left vacant by the resignation of Mr. R. L. Donovan. He will take charge of this work beginning September 1. Mr. Mosher's experience in the farm management work in Woodford county gives him an excellent background of experience and training for this work.

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August 1, 1923

No. 31

Crop Rotation and Legumes for Fall Plowing - "Farmers in the corn belt generally admit that a good crop rotation, including the wide use of legumes properly handled, is one of the corner stones in a system of permanent soil fertility. In establishing such rotations, of which there are many, there are various items which should be considered, among which is the question as to whether the following of an approved rotation will permit of fall plowing where soil conditions are favorable in order to lessen the amount of spring work. The following are a few good rotations, which are well suited to corn belt conditions and give an opportunity for fall plowing:

1. Corn	2. Corn	3. Oats (clover)	4. Clover
1. Corn	2. Oats	3. Wheat	4. Clover
1. Wheat	2. Wheat (clover)	3. Clover	
1. Corn	2. Cowpeas or soybeans	3. Wheat (clover)	4. Clover
1. Corn	2. Oats	3. Clover	

On land which responds better to spring than fall plowing and when red clover or pea or bean hay is desired for feed, the following rotations are excellent:

1. Corn	2. Oats (red clover)	3. Clover	4. Wheat (sweet clover)
1. Corn	2. Corn	3. Oats (red clover)	4. Clover 5. Wheat (sweet clover)
1. Corn	2. Soybeans or cowpeas	3. Wheat (sweet clover)	

- R. S. Smith, U. of I.

Government Whitewash - "A great many requests for a formula for good whitewash are received by the College of Agriculture, University of Illinois. The government whitewash formula is probably one of the best. It is whiter than most mixtures and is almost as serviceable as paint for wood, brick, or stone. It is recommended by the government for whitewashing light-houses. A pint of this wash when carefully applied will cover about ten square feet of surface. The following is the standard recipe:

"Slake half a bushel of unslaked lime with boiling water, cover during process to keep in steam, strain the liquid thru a fine sieve or strainer, and add to it 7 pounds of salt, previously dissolved in warm water, three pounds of ground rice boiled to a thin paste and stirred in while hot, half a pound of Spanish whiting, and one pound of clear glue, previously dissolved by soaking in cold water and then hanging over a slow fire in a small pot hung in a larger one filled with water. Add five gallons of hot water to the mixture, stir well, and let it stand for a few days, covered from dirt. It should be applied hot, for which purpose it can be kept in a kettle over an oven or a portable furnace."

"Coloring matter may be added as desired. For cream color add yellow ochre; pearl or lead, add lamp black or ivory black; fawn, add proportionately four pounds of umber to one pound of Indian red and one pound of common lamp black; common stone color, add proportionately four pounds of raw umber to two pounds of lampblack." - E. W. Lehmann, Dept. of Farm Mech., U. of I.

Carroll County
to present
Historical Pageant

"Eliminate horse racing and endeavor to develop a county fair that will enlist the support and command the respect of the citizens of the county" was the decision of the Carroll County Fair Board this spring.

After thus literally burning their bridges behind them the board was confronted with the problem of securing suitable material for this program. Mrs. Loomer Downing, farm woman and club leader, came to the rescue with a suggestion for a county pageant.

The pageant as outlined will review the history of Carroll county for the past hundred years. Two episodes will be presented each day. While each day's program will be complete there will be unity in the entire three day's program.

The first day's program will cover early Indian history and the days of the pioneer, the second, significant political and agricultural history, and the third, transportation, communication, and the work and place of woman. A grand parade will conclude the three days' presentation.

Carroll county has a rich historical background. Material with real dramatic possibilities is abundant and under the able direction of Miss Nina B. Lamkin, who directed the Illinois Decennial Pageant at De Kalb, the project is an assured success.

Local talent is abundant and interest and support of groups thruout the county is pronounced. At a general meeting of representatives from all parts of the county practically the entire cast was filled. Groups from different sections of the county will present the program on different days. The dates are August 29, 30 and 31. The Farm Bureau is taking an active part in furthering the project." - J. D. Bilsborrow.

"The Alfalfa Eel-Worm Disease is believed to be more widely distributed than we now know it to be. It was found in Oregon in 1921, and has since appeared in California and Colorado. The results of the eel-worm attack are reported to be very severe, reducing fields to an unprofitable condition within a year.

The disease is manifested by a thinning out of spots in the field. In early stages a wilting occurs accompanied by more or less yellowing and distortion. Stems are later swollen at the base and brown in color. They are often brittle and easily broken off. New buds and sprouts may be swollen, cream colored and spongy. Badly diseased plants show a distinct rotting of stem bases and crown with some or all of the stems completely killed.

The cause of the disease is an eel-worm (Tylenchus dipsaci) scarcely a twentieth of an inch long. Each adult may lay as many as 200 eggs. The young migrate and penetrate thru tender succulent parts of new plants. When a plant is killed the worms migrate into the soil to attack other plants.

The eel-worm may be carried long distances in diseased hay for they are very resistant to drying. We will gladly give attention to plants suspected of being attacked by this disease." - L. R. Tehon, Botanist, Natural History Survey.

Motor Truck Factor in Assembling Wool - "The Mercer County Farm Bureau shipped out one carload of wool this month which went to the Illinois Wool Pool. It contained 55 consignments totalling 16,900 pounds. This is about 3,000 pounds more than was pooled last year. Our plan of assembling the wool saves long trips for those who live a long distance from the main loading point. Notices were mailed out to all men who had wool that it would be received at certain points at a specified time and from those points it would be trucked to the loading point at Aledo. The cost of trucking will be prorated among the consignors." - C. H. Belting, Mercer County.

$$\begin{aligned}
 & \text{Theorem 1. Let } \mathcal{F} \text{ be a family of } n \text{ sets, each of size } k, \text{ such that } \\
 & \text{any two sets in } \mathcal{F} \text{ intersect in at most } t \text{ elements. Then } |\mathcal{F}| \leq \frac{n}{k-t}. \\
 & \text{Proof. Let } \mathcal{F} = \{F_1, F_2, \dots, F_m\}. \text{ Then } \sum_{i=1}^m |F_i| = km. \text{ On the other hand, } \\
 & \text{each element } x \text{ belongs to at most } k-t \text{ sets, so } \sum_{i=1}^m |F_i| \leq (k-t)m. \\
 & \text{Hence } km \leq (k-t)m, \text{ which implies } m \leq \frac{n}{k-t}. \quad \square
 \end{aligned}$$

Observations on
Program and Service

"The use of a definite program of work has made the work much more enjoyable for the farm adviser this year than formerly. It gets a man systematically into every part of the county. We have not been successful in formulating a program of work thru questionnaires. However, the present program of work was adopted by the executive committee." - G. B. Kendall, Morgan County.

"As Farm Bureau work develops, more and more of our time is demanded by groups instead of individual attention. The latter line of work is absolutely necessary in the beginning. During the month we held 28 meetings with an attendance of 1792, of which meetings seven were auto tours with 329 people attending." - F. E. Fuller, Marshall-Putnam County.

"We are observing a considerable change in the attitude of Farm Bureau members toward the organization. No more farm visits are requested, unless the farmer has some real problem and members have come to realize more than ever before that it is a real service organization. In past years we have sometimes felt that a good many requests for farm visits were made from the standpoint of curiosity, rather than from any real need." - G. T. Snyder, Ogle County.

Publicity Promotes Projects - "By using a considerable amount of publicity, namely, circular letters, news letters, county papers and personal calls, the shipping associations of Clark county increased their membership over 150 members. These Associations have been returning to the Clark county farmers over \$1000 per day since January 1, 1923." - W. W. Merritt, Clark County.

"The liberal use of posters calling attention to the \$100 reward offered by the Farm Bureau for information leading to the arrest and conviction of any person stealing chickens from a farm bureau member, is attracting some attention. These posters seem to stay posted much better than posters ordinarily do." - G. B. Kendall, Morgan County.

Aurora Entries Close August 6 - "It should be understood in counties conducting club work that those club members who wish to exhibit or demonstrate at the Central States Fair at Aurora should notify the Farm or Home Adviser immediately. The last day for making entries is August 6.

A camp is being provided for all club members who exhibit or demonstrate and it will also be necessary to state whether it is desired to stay at the camp.

The camp offers the opportunity for club members to meet boys and girls from all parts of the state and enjoy a full week of good fellowship. We will all take a swim in the fine new pool once each day under the direction of a life guard from the Y. M. C. A. of Aurora, in addition to the many other good times.

The club member who attends the fair with an open mind, and a desire to study his animal, the animals of his competitors, the manner in which they were fed, fitted, and exhibited, will go home better equipped to produce good live stock, and become an honored member of the live stock fraternity." - E. I. Pilchard, Club Work.

Jo Daviess county has employed V. J. Banter, formerly junior adviser in Bureau county, to fill the position left vacant by the resignation of C. C. Burns. Banter graduated from Purdue in 1918 and has been in Bureau county two years. He will begin work August 6.

H. W. Day, Associate Farm Adviser in Cook county for the past two years, has accepted a position as chief of the Bureau of Standardization and Markets in the State Department of Agriculture. He will take up his new work August 1.

The first of these is the fact that the system is not self-sufficient. It is necessary to import a large quantity of raw materials and components from abroad. This is a major disadvantage of the system, as it makes it vulnerable to fluctuations in the international market. The second disadvantage is that the system is not very flexible. It is not possible to make any changes to the system without a major overhaul. This is a major disadvantage, as it makes it difficult to adapt to changing circumstances. The third disadvantage is that the system is not very secure. It is possible for an attacker to gain access to the system and steal sensitive information. This is a major disadvantage, as it makes it difficult to protect the system from attacks.

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August 8, 1923

No. 32

Successful Culling

Demands

Well Fed Flocks

"With the culling season here once more a few words as to method may not be out of place. Well fed hens should be laying reasonably well for another month yet. If ordinary culling tests applied before September 1 (for central Illinois) show that more than a third of the flock would be thrown out,

the chances are that a feeding demonstration rather than a culling demonstration is needed. Remember that it is extremely difficult to judge correctly the egg producing ability of a hen selected from a flock that is not sufficiently well fed for the better individuals to continue laying until on or after October 1. It is only in response to good feeding that the easily distinguishable differences between high and low producers are brought out.

Consider all factors before culling a hen. A hobby may be a fine thing but don't ride it to the culling demonstration. An early molter may be a reasonably good hen if all other things are in her favor. She will show her quality by a rapid molt, a tendency to shed all feathers at once rather than a few at a time. Such hens are not common, to be sure, but they do occur. When found they should be given a chance.

Look for lice and mites, particularly the mites. They are frequently responsible for a lowered egg yield. A mite infested flock is likely to be in poor flesh and may molt late simply because the hens haven't the vitality necessary for feather growth while the mites are attacking them in large numbers.

A balanced judgment on the flock and on the individual hen is what is needed. A safe rule in culling, where we are concerned mainly with getting rid of the poor hens is always to give the hen the benefit of the doubt." - L. E. Card, U. of I.

Limestone A Measure of Agricultural Progress - "We have been digging up a bit of interesting history in agricultural progress of this county during the past month. In our last circular letter we sent out a questionnaire, the object of which was to find out which farms in the county had been covered with ground limestone and during what year the job was completed. We received quite a number of replies from the questionnaire and the subsequent letter that was sent out to those farmers who we thought had covered their farms with limestone. However, not a perfect score was secured this way and it has taken a little personal work to get the information. This is not quite completed at present, but so far we have over 30 farms on which all cultivated land except overflow bottom land has been covered with limestone, with at least one application. On two of these farms the job was completed in 1918 and on another one in 1919. These are the earliest dates that we have so far." - C. H. Rehling, Clinton County.

Change in Address - "All farm bureau publications, news letters and circulars now addressed to Library - States Relations Service, should in future be addressed to Library - Office of Experiment Stations, as the two libraries have been combined under the one name." - W. H. Smith.

Illinois FarmersSit Tight

"Sound, substantial, property owning farmers are sitting tight, refusing to be stampeded and are coming thru the present price depression with fine courage." So says F. F. Elliott, Extension Specialist, Department of Farm Organization and Management, University of Illinois, who has had personal contact

with over 400 Illinois farmers during the past two months.

In contrast to this we are led to believe, thru press reports, that the agricultural atmosphere is in many localities apparently charged with pessimism, distrust, lack of confidence, clamor for price fixing, cost of production plus a profit and various other nostrums and cure alls, political and economic.

From the spring wheat section of the northwest come reports of crop damage from rust and other causes. Warnings without number have been given the wheat farmers by Mother Nature. Those who have heeded the warnings sounded at ever more frequent intervals during the past fifteen years, have gradually changed their system of farming and are now securing a large share of their income from meat, milk, cream and poultry.

In the south the exclusive cotton farmer, owing to ravages of boll weevil and the shifting of labor has been driven to a system of diversified farming with "grow your own food and feed" as the slogan. The position of the corn belt farmer is in many ways similar to his neighbors in the north and south producing wheat and cotton.

Two significant things stand out in bold relief to the conditions cited above. First, the major clamor is apparently coming from a small minority of one crop farmers, and that self appointed group who would set themselves up to "farm the farmer". Some farmers are quite upset by shifting prices but the large majority, Mr. Elliott finds, have adjusted their production and expenditures to a basis that will enable them to meet current expenses.

Second, with a full appreciation of the setback that has been given many farmers and the discouragement that is lodged in the minds of some, there is still a rainbow in the agricultural sky. Some farmers are losing money every day they farm, the great majority are breaking even, but our hope lies in the fact that in every county or community there are a few farmers who have consistently made a fair profit every year. These men have in general been improving their methods of production in order to meet the new economic conditions. A few have adjusted their system of farming in a way that has enabled them better to take advantage of current market conditions.

Observation, study and application of the methods and practices of these men may be of help in restoring agriculture to that place or condition called normalcy. - J. D. Bilsborrow.

Accounts Light the Way to Improved Methods - "On July 9, 10 and 11, Mr. F. F. Elliott and the Farm Adviser visited the farms of the men who are keeping a record of their farm business. At each place the summary of last year's records were explained. Fifteen records were completed last year and there will probably be about 30 men who will complete records this year. The men who completed last year's record are convinced that this work will be of great value to them in developing their farm management plans. A number are going to make definite changes as a result of the facts disclosed by comparing their records with the average for the county." - R. C. Doneghue, McDonough County.

"We have twenty people who are keeping accurate poultry records in connection with the farm bureau and the College of Agriculture." - G. B. Kendall, Morgan County.

The Cost of Silage - "The cost of silage varies widely from year to year and between farms during the same year. The greater part of this variation is due to the quantities and value of labor, and the yield and value of the corn used in making the silage.

The following table is a summary of cost data secured on 200 farms in Kane and De Kalb counties in 1921 and on 140 farms in Henry county in 1922.

The quantities of labor, materials, and grain are given so that estimates may be made of the cost of a ton of silage under varying price levels.

In Henry county a large number of farms did not use binders. The data for this area was therefore divided to show the cost on farms using binders as compared to costs on farms cutting the corn by hand.

Item	Kane and De Kalb counties		Henry county farms using binders		Henry county farms cutting corn by hand	
	Amount	Cost	Amount	Cost	Amount	Cost
Number of Farms	200		107		33	
Man Labor (hrs.)	1.4	\$.35	1.45	\$.36	1.83	\$.46
Horse Labor (hrs.)	2.	.30	1.95	.29	1.53	.23
Cutter and Power Costs	-	.33	-	.33	-	.33
Twine (lbs.)	.46	.07	.35	.05		
Fuel						
Coal (lbs.)	20	.07	18	.05	20	.07
Gas (gal.)	.4		.3		.4	
Oil	-	.01	-	.01	-	.01
Binder	-	.07	-	.07	-	
Miscellaneous (Equip.)	1%	.04	1%	.04	1%	.04
Grain in Silage (bu.)	5.5	2.75	5.5	2.75	5.5	2.75
Corn Stover	-	.15	-	.15	-	.15
Total Cost	-	4.14	-	4.10	-	4.02

Man labor was figured at 25¢ per hour. Horse labor at 15¢ per hour. Corn at 50¢ per bushel and corn stover at \$1.25 per acre." - C. A. Bonnen, Farm Org. and Mgt.

Effective Advertising - "Some of the most effective advertising is many times neglected by live stock breeders or breed organizations. A group of breeders from the same community exhibiting live stock at county fairs, or breeders of a county exhibiting at District or State Fairs will do well to have a large sign placed over their exhibit giving the name of the community or county exhibiting. Each breeder in the exhibit should place a neat, uniform, individual sign at their exhibit pen or stall.

This form of advertising is especially valuable in the event a community or a county club live stock exhibit. The individual placards should be uniform in size and should show the name of the breeder or club member, the breed organization or local club of which the exhibitor is a member, and the address. The pen or stall and its surroundings should be kept clean, free from objectionable odors, and attractive.

Good live stock, well-advertised, is usually well sold." - E. I. Pilchard.

Outings Appreciated - "Fifteen fresh air kiddies returned on the 27th, to their homes in Chicago after having spent two to three weeks on Warren county farms. The folks who had the children in most every instance regretted their return to the city and most of the children were reluctant to leave their friends who had entertained them." - A. A. Olsen, Warren County.

The first part of the report deals with the general situation of the country. It is a very interesting and informative study of the country's development. The second part of the report deals with the specific details of the country's development. It is a very detailed and thorough study of the country's development. The third part of the report deals with the specific details of the country's development. It is a very detailed and thorough study of the country's development.

1950		1951		1952		1953		1954	
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
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8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00

The fourth part of the report deals with the specific details of the country's development. It is a very detailed and thorough study of the country's development. The fifth part of the report deals with the specific details of the country's development. It is a very detailed and thorough study of the country's development. The sixth part of the report deals with the specific details of the country's development. It is a very detailed and thorough study of the country's development.

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The Extension Messenger

Timely Notes for Farm Advisers and others from the
Agricultural College, the Experiment Station,
and the Extension Service

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

August 15, 1923

No. 33

Purebred Soybean Growing Unites A Community

"Three Champaign county soybean growers, after considerable searching in the spring of 1922 purchased 65 bushels of the best Manchus soybean seed they could find.

This seed was carefully hand-picked and seeded by these men on 100 acres. At harvest time these fields showed an average purity of 99.92%. This seed, on laboratory examination, was found to run 97.83% true slate-black Hilum. The Illinois Crop Improvement Association inspected seven other fields of Manchus, the average laboratory analysis showing a Hilum color of 75% black and a field purity of 99.5%.

This encouraged Champaign county soybean growers to utilize as much of this extra good seed as possible at home. The result is 650 acres of soybeans are being grown this year from these three lots of seed. 630 acres of this will be inspected this fall by the Illinois Crop Improvement Association for 29 Champaign county farmers. Five hundred acres or approximately 80% of the total is to be found in one community and in one threshing ring.

Inasmuch as the seed for 80% of this acreage was hand-picked at least once, and in some cases, two or three times, it is expected that with a reasonably favorable season, Champaign county growers will have 9000 bushels of certified Manchus soybeans which will show a field purity of better than 99.9%.

Last week a soybean inspection tour was made to visit the various farms where the beans are being grown and a meeting was held at one of the stops. More than one hundred visitors were present, many of them from outside the county." - J. E. Johnson, Champaign County.

Getting Ready to Weigh the Ton Litters - "During the latter part of the month all of the ton litters still in the contest were inspected by a committee. Not more than a third of the litters which were in the running in the spring have been entered in the final nomination. A number of the men who started out with high hopes of being among the winners have, for various reasons, fallen by the wayside. Many of them will realize that by the time the contest is over that after all it takes considerable time, patience, good feeling and management to produce a ton litter in 180 days with any degree of success." - H. Fahrnkopf, McLean County.

"Of the twenty litters entered in the ton litter club, only seven have been nominated for the final contest. The inspection committee consisting of the Chairman of the Chamber of Commerce and farm bureau committees on this project made a personal visit on the 27th, to each one of the litters nominated. This committee will have charge of the weighing of each litter when the six months time has expired." - A. A. Olsen, Warren County.

"The next step in the ton litter contest is to see that the nominated litters are carefully weighed when they reach the age of six months. Blanks for this purpose are being mailed this week to all the counties that have sent in their nominations. The weighing should be carefully done by a disinterested committee and care should be taken to see that the scales used are accurate." - T. H. Smith.

CHAPTER I
THE DISCOVERY OF AMERICA
The first discovery of America was made by Christopher Columbus in 1492. He sailed from Spain in search of a westward route to the Indies. On October 12, 1492, he landed on the island of San Salvador in the West Indies. This event marked the beginning of European exploration and settlement in the Americas.

CHAPTER II
THE EARLY YEARS
The early years of the United States were marked by the struggle for independence from British rule. The American Revolution began in 1775 and ended in 1783. The new nation was founded on the principles of liberty and democracy.

CHAPTER III
THE GROWTH OF THE NATION
The growth of the nation was rapid in the early years. The population increased from about 2.5 million in 1775 to over 10 million by 1800. The territory of the United States expanded from the Atlantic coast to the Rocky Mountains.

CHAPTER IV
THE SLAVE QUESTION
The slave question was one of the most important issues in the early years of the United States. The debate over the expansion of slavery into the new territories led to the Civil War in 1861.

CHAPTER V
THE CIVIL WAR
The Civil War was a major conflict in the history of the United States. It was fought between the Union and the Confederacy from 1861 to 1865. The war resulted in the preservation of the Union and the abolition of slavery.

CHAPTER VI
THE RECONSTRUCTION
The Reconstruction period was a time of great change in the United States. It was a period of rebuilding the South and integrating the freed slaves into the nation. The Reconstruction period ended in 1877.

CHAPTER VII
THE GROWTH OF THE NATION
The growth of the nation continued in the late 19th century. The population increased to over 50 million by 1900. The United States emerged as a major world power.

CHAPTER VIII
THE 20TH CENTURY
The 20th century was a time of great change in the United States. It was a period of rapid technological advancement and social change. The United States played a leading role in the world during this time.

CHAPTER IX
THE 21ST CENTURY
The 21st century has been a time of great change in the United States. It has been a period of rapid technological advancement and social change. The United States continues to play a leading role in the world.

CHAPTER X
THE FUTURE
The future of the United States is uncertain. It will depend on the choices we make in the years ahead. We must continue to strive for liberty and democracy for all.

Fall Cutting First Year Sweet Clover - "There have been a number of tests made on various experiment fields of the University of Illinois during the past three years to determine to what extent sweet clover which is seeded in the spring may be fall cut for hay. On the Odin field sweet clover which had been seeded in the spring of 1920 and cut the same fall, made 3100 pounds of hay per acre and in 1921 yielded 4.3 bunnels of seed. During the same years, however, there was apparent injury to the sweet clover which had been fall clipped on the Oblong and West Salem fields. The seasonal conditions, date of cutting and other factors have no doubt an influence on the amount of hay secured and injury done to the succeeding season's growth.

The following table gives sweet clover hay yields (pounds per acre) from three experiment fields with different dates of cutting. This sweet clover was seeded in wheat or oats in the spring of the years designated.

Sparta Field (One plot)	1921	Harvested	September 26	-	2020 pounds
		"	October 26	-	2320 "
Odin Field (Average 2 plots)	1921	"	October 1	-	355 "
		"	November 2	-	350 "
Odin Field (Average 2 plots)	1922	"	October 1	-	2000 "
		"	November 2	-	2040 "
Carthage Field (Average 3 plots)	1922	"	September 30	-	2990 "
		"	October 17	-	3220 "

On the Odin and Sparta fields the late dates of cutting showed the most winter injury, the earlier date showed some winter injury, and that allowed to go unclipped showed no winter injury. The clipping in no case seemed to seriously injure the growth of the next season's seed crop. On the Carthage field neither date of clipping showed any winter injury nor did it seem to influence the next season's growth as compared to the unclipped sweet clover. The above results are from land which has been well treated.

In general these results indicate the possibility of removing a fall hay crop from first year sweet clover without doing very much harm to the succeeding crop. However, it is a fact that in many cases in Southern Illinois where sweet clover is fall clipped it will heave out to a greater extent than that which is not clipped. But unlike alfalfa, sweet clover may be heaved out of the ground several inches and go ahead and do business as usual." - H. J. Snider, Agr. Dept., U. of I.

Painting Hints - "Painting is a job most any farmer can do if he gets at it when his field work is not rushing. The chief points to keep in mind are to use good paint and apply it only on clean dry surfaces. The U. S. Department of Agriculture has provided Farmers' Bulletin No. 474, that will prove of value to every one who does his own painting. The title of this bulletin is 'Use of Paint on the Farm'.

The fall of the year is a good time for painting, especially after frost has killed the insects. The old buildings are well dried out by the summer sun, and any new ones are thoroly seasoned so that they take paint well. It is always easier to make repairs during warm weather, so this should be attended to before the painting is started. Don't overlook the machinery. Some of it will need painting before it is stored away. The deterioration of farm buildings and machines is considerable where they are not painted at regular intervals." - E. W. Lehmann, Dept. of Farm Mech., U. of I.

Barriers Control Bugs - "Fighting chinch bugs has been an important project. In some sections the bugs are doing considerable damage and the farmers who have taken the advice of the farm bureau and have constructed good creosote barriers are controlling the bugs in fine shape." - O. M. Allen, De Witt County.

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News from Northern Illinois Counties

Stephenson - "The many requests for soil testing indicates the county-wide interest in the problems of soil fertility and the desire to be more successful with legumes. Approximately 1000 tons of limestone were ground from local quarries during the month of July and delivered to farms by the cooperative limestone grinding company. 332 tons has been the banner record for the week ending July 22." - G. F. Baumeister.

Boone - "Clover hay this year in Boone county is almost as scarce as hens teeth. To meet the shortage of the hay crop & good many men are using the soybeans for hay. Even tho the weather has been very dry the beans are coming thru in fine shape. One man sowed sweet clover with the beans on June 10 and I never saw a finer stand of sweet clover. This method of seeding grass crops I believe is one that deserves careful study as I believe this system will be a winner." - J. C. Kline.

Winnebago - "Two outstanding changes in the cropping system practiced in this county are quite marked this year. On every trip thru the country we see numerous fields of soybeans which have been planted for hay. Likewise, the number of sweet clover pastures fields was never so great as at present. The use of both of these crops in this way has been brought about largely thru educational work of this office. To others we recommended the sudan grass for emergency purposes. Now with the great growth that it has made and a very favorable season we find difficulty in suggesting an entirely satisfactory method of harvesting and curing hay on account of the great growth that the crop has made. One farmer brought in a sample which was just beginning to head in good shape at the height of about nine feet." - C. H. Keltner.

Lake - "A number of fine fields of soybeans sown for hay are showing up. These will furnish very valuable dairy feed, since there is very little red clover for hay and timothy is very light. Alfalfa is the salvation of the situation for we have a fine crop of it on an increased acreage this year." - J. J. Doerschuk.

Test Finds Cattle in Good Condition - "Twenty herds of cattle containing 333 animals six months old and over were tested by the federal veterinarian in charge of T. B. control work in Southern Illinois during July. The route was carefully planned, the owners notified at approximately the time we would arrive, etc. Thus a maximum number of scattered herds were tested in a near minimum time.

It might be of interest to note that not a single reactor was caught among the entire number. This work constituted the initial test for about one-half of the cattle tested." - W. B. Bunn, Richland County.

Fair Enough! - "The premium lists for the Junior Department at the State Fair have been mailed out. These should be distributed among the club people to the best advantage. Practically \$4000 is being offered in this department and counties doing club work should cooperate with the Fair management by encouraging their club members to exhibit or take part in the demonstration contests. The last date for entering exhibits is September 10.

The railroad expenses of one team from each county to and from Springfield will be paid by the State Fair. A beautiful camp site has been selected where all club members exhibiting or demonstrating may stay free of charge. Meals will be furnished at the rate of \$1 per day. The State Fair is planning to enlarge and improve the accommodations for the club work in the future. The response we make will largely determine the extent of these improvements.

Have your members fill out that entry blank on the back of the premium list and mail to 1210 W. Springfield, Urbana, Illinois. Remember the dates! " - E. I. Pilchard, Club Work.

The first part of the report deals with the general situation of the country. It is a very interesting and informative study of the country's development. The author has done a great deal of research and has gathered a wealth of material. The report is well written and is a valuable contribution to the study of the country's development.

The second part of the report deals with the economic situation of the country. It is a very interesting and informative study of the country's economic development. The author has done a great deal of research and has gathered a wealth of material. The report is well written and is a valuable contribution to the study of the country's economic development.

The third part of the report deals with the social situation of the country. It is a very interesting and informative study of the country's social development. The author has done a great deal of research and has gathered a wealth of material. The report is well written and is a valuable contribution to the study of the country's social development.

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Vol. VI

August 22, 1923

No. 34

Buying

Feeder Cattle

"Feeder cattle business shifted largely last fall to traffic in range calves. Thousands were shipped from western markets and from the ranges to Illinois stations where they were sold by the head to farmers. The traffic directly from the range is exploited largely on the ground of fresher cattle and freedom from the stock yards disease, hemorrhagic septicemia. However, rest for feed and water may be more refreshing to cattle in a well appointed market yard than in a common station loading pen. Disease may be acquired in any public car or stock pen. Vaccination at the stock yards has now been provided at a few cents per head.

Unless some system is developed which will deliver cattle on the feeder's farm at a lower price per pound, quality considered, there is no practical incentive to abandon the public market as the buying place. The public markets receive only cattle which are definitely intended for immediate sale. They are sold by the pound which assures full value on the regular marketing basis. The inexperienced buyer secures for a nominal commission the judgment of the shrewdest cattle buyers in the trade. Buying at the stock yards public market helps to maintain a competitive basis of prices in line with general trade conditions. Cattle are shipped to cornbelt stations to be sold only in the expectation of making more money for the seller than central market prices would make. The buyer has a much greater range of selection at a central market as to numbers, weights, quality and prices.

Cooperative buying of feeder cattle is conducted by the Live Stock Producers' Commission Companies. Their buying is confined to those central markets in which they maintain offices. The direct saving to the buyer accrues thru patronage dividends." - E. T. Robbins, U. of I.

Cow Testing Work Progresses - "The Franklin county membership in the Tri-county cow testing association has increased to 16. The first month test has been completed with results decidedly enlightening. The interest of the most indifferent members has warmed up to an enthusiastic pitch. This project is much needed in the county." - H. A. deWerff, Franklin County.

"The newly organized cow testing association has now gone thru its first month of existence, and the members are very greatly pleased with the results as brought out by Mr. Schroeder, tester. Interest in dairying has received considerable stimulus due to the establishment of a centralizing plant established recently which raised price of butterfat at least seven cents per pound." - H. F. Crosby, Crawford County.

"The Effingham county cow testing association has been reorganized under the Boone county plan with an initial membership of 97. Since 50% of the members are in the northwest part of the county, headquarters have been established at Beecher City with Fred Kaaserman, former tester, in charge. Several dairymen from Shelby county are members of this association." - F. W. Wascher, Effingham County.

Alfalfa Variety Demonstrations - "Alfalfa Variety Demonstrations were started this past spring in four counties in Northern Illinois and arrangements have been made for starting others either this fall or next spring. The importance and value of this crop is rapidly becoming generally recognized. Farmers are beginning to realize that there is no other crop which will produce as much protein of a superior type as alfalfa.

The soybean and sweet clover acreages have been greatly increased during the past three years and should continue to increase in all counties of Illinois, but the rapidity of the increase in alfalfa acreage should be materially speeded up in order to keep pace with the other legumes and meet the needs of the Illinois farmer. We have been feeding entirely too much timothy of Illinois origin and too much alfalfa which was grown in the west. Now is the time to start a campaign to grow your own alfalfa.

Variety Demonstrations in the northern portion of the state include the following described types:

Grimm - which is a generally recognized, hardy strain of alfalfa, the original selection being made by Wendelin Grimm, in Carver county, Minnesota. The seed was brought from Germany in the year 1857, and the present Grimm alfalfa is a product of a few plants which survived the rigorous winters in Minnesota. This type is reputed to have a spreading root system and a tendency to have an underground crown, which enables the variety to withstand the most severe weather conditions.

Argentine - which is apparently a strain of common purple-flowered alfalfa growing in the Argentine. Seed from South America has been coming in the United States more or less regularly for the past few years, but during the past year importations have been considerably increased. This is especially true in certain parts of the northwest. No data are available at the present time regarding the hardiness of this strain, nor its yielding power.

South Dakota No. 12 - which is a strain of common alfalfa developed by the South Dakota Experiment Station. This alfalfa is frequently spoken of as Black Hills alfalfa and is reputed to be one of the hardiest of the common alfalfas. It has made excellent yields in both Dakotas, Minnesota and Wisconsin. It makes a growth something similar to the Grimm, but probably not so much pronounced in its spreading root system nor in the submerged crown as the Grimm.

Kansas - which is a commercial seed produced in central western Kansas. Nothing is known of the particular history of the seed used, aside from its origin. This is probably the same general type of common alfalfa as is on the general market under the name "Kansas Seed".

Cossack alfalfa - which is a strain introduced by Professor Hanson, of the South Dakota Experiment Station, who found it growing in the higher altitudes of Siberia. This alfalfa possesses the same characteristics as mentioned for Grimm and is reputed in the northern states to be one of the hardiest strains.

Hardigan - which is a selection made by the Michigan Experiment Station and now being propagated in that state in relatively large quantities. This selection has made good over a period of years at the Michigan Experiment Station, but has not been tested out in Illinois.

These demonstrations, together with others, which will be started this fall and next spring, should give us some excellent opportunities for alfalfa field days in many counties." - J. C. Hackleman, Crop Extension Specialist, U. of I.

Creosote in Carload Lots - "Acting on reports of the University authorities who predicted considerable chinch bug damage for this county, the Farm Bureau made arrangements with a local company for handling creosote. Nine carloads of this material were shipped into the county. Some of this was used in adjoining counties, but a great amount was used in McLean county." - Fahrnkopf, McLean County.

Have You Had A Similar Experience? - "We launched our membership campaign on the evening of July 23 when the I. A. A. organizer arrived and we had a meeting of picked men about the county. We have also had several community meetings and made personal calls on several township committeemen to get them interested and on their toes to put this campaign thru in creditable fashion. This is a strenuous piece of work when it is remembered that we have to carry on our usual line of farm bureau work with it." - E. M. Phillips, Greene County.

That Mr. Phillips' efforts were fruitful is indicated by the good attendance and interest manifested in his school of instruction. Altho farmers were very busily engaged in threshing which had already been delayed on account of bad weather, 130 men were present and voiced their belief in the work of the farm bureau. - J.C.S.

"I miss the running water and the bath more than anything else in our farm home," said Mrs. J. R. Phillips, the wife of a Champaign county farmer. This statement is one that will be agreed to by practically every farm woman who lived in a modern home and is now living in a farm home that is not modern. Every survey that has been made shows that it is a consensus of opinion among farm women that a running water supply is the most important farm home equipment.

It is a labor saver in doing practically every kind of work in the home. The food can be prepared with greater ease where there is water under pressure. The work of washing clothes is greatly reduced, the house is more easily cared for, better care of the children is made possible and their health is safeguarded. Every farmer should work toward having some type of water system in the home." - E. W. Lehmann, Farm Mechanics, U. of I.

Sweet Clover Demonstrations - "Two sweet clover field meetings were held during the month. One was to demonstrate the value of limestone in securing a stand of sweet clover. The owner had been in the habit of seeding sweet clover without limestone but he has never been successful in getting a good stand. He did, however, use enough limestone to make one round with the spreader. No difference was observed in the sweet clover which was seeded with oats in the spring of 1922 until May 1923. Then the limestone strip presented a dark green color across the field and the clover was much larger than the adjoining portion. This man is thoroly convinced now that limestone is needed. The other meeting was held at a field which had been pastured from May 8 and on June 15 this twelve acre field had carried 23 head of cattle and 46 head of fall shoats. There is an abundance of feed in the field and it looks that part of it would get too rank." - G. E. Gentle, Schuyler County.

Oats for Hogs - "Oats may be fed profitably to hogs when valued at one half as much per bushel as corn, first by replacing wheat middlings as the additional feed to corn and tankage, and second, by making up part of the grain ration for growing pigs and brood sows.

Oats vs Middlings for Feeding Fall Pigs
40 Pigs Per Lot

Self Fed	Corn Tankage Whole Oats	Corn Tankage Middlings
Free Choice		
Days required from 56 to 225 lbs.	132	134
Average daily gain per pig	1.25	1.26
Feed per 100 lbs. gain	C 346 T 46 O 58	C 348 T 46 M 64
Total	450	458

- W. H. Smith.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

August 29, 1923

No. 35

Soybean Tours

or

Soybean Days

"Soybean tours will be the main order of business in Illinois during the next two or three weeks. In fact, it is not limited to county or district meetings. State and National Soybean Meetings are being arranged for in all Middle Western States.

Illinois Soybean Day - which is to be held at Urbana, Thursday, September 6, will practically conclude the series of soybean meetings in Illinois. Most counties have attempted to hold their meetings during the last week of August and the first week of September. The program at Urbana includes a very complete study of the soybean crop and its many uses. The investigational work, conducted at the Illinois Experiment Station by the various departments of the College of Agriculture, will be discussed both during the forenoon and afternoon programs. Copies of this program may be secured by writing the College of Agriculture.

National Soybean Day - which is to be held in Madison, Wisconsin, promises to be an unusually interesting and instructive one. The forenoon program will be devoted to a field inspection of the soybean crop and cultural methods, harvesting and handling machinery. The noon-day luncheon will be at Hill Farm and will be made up of a soybean menu. The afternoon program includes nationally known speakers from the following states: North Carolina, South Carolina, Wisconsin, Minnesota, and Indiana. In addition to these main addresses, representatives of South Dakota, Iowa, Illinois, Ohio, Missouri, Michigan, Tennessee, Kansas and Washington, D. C., will report on the progress of the soybean industry in their respective sections.

Minnesota, Indiana, and Iowa are expecting large delegations of farmers to motor thru to this meeting. Illinois farmers should make it a point to attend, as Madison is only a short distance north of Rockford on Wisconsin State Highway No. 10. Going out of Chicago, go out on Illinois Highway No. 12 to the Wisconsin line, thence over Highway No. 20, to the junction with No. 10 due north of Rockford." - J. C. Hackleman, Crops Department, U. of I.

Is Farm Labor as Efficient as It Was a Quarter of a Century Ago? - "A comparison of the time required on corn in Champaign county in 1896 and 1922 shows that farm labor is now performing the main operations in 54 to 91 percent of the time that was required at the earlier date. Data for 1896 are from Illinois Agricultural Experiment Station Bulletin No. 50 and for 1922 from detailed cost accounts on 15 farms in Champaign and Piatt counties. The results are as follows:

	Hours of Man Labor per Acre		Percent 1922 time is of 1896
	1896	1922	
Plowing (with horse)	3.73	2.00	54
Planting	.77	.65	84
Cultivating (1-row)	4.57	4.15	91
Cultivating (2-row)	=	2.50	-
Husking	9.01	5.00	56

The yield per acre was 55 bushels in 1896 and 48 bushels in 1922." - E. Rauchenstein, Dept. Farm Org. and Mgt., U. of I.

Plowing Easier, Faster and Cheaper - "A gang plow pulls 25 percent harder if the team is hitched a foot toward the land from the true line of draft. That is one great reason why it is much easier on the horses to work four horses in pairs, one pair in front of the other. When worked this way the horses can spread apart and keep cooler; they do not crowd and fret, and they do not injure feet and shoulders as they frequently do when working four-abreast. It has been thoroly proved that four horses hitched two in front and two behind to a 14 inch two-bottom gang can walk 20 miles a day and plow 5 acres easier than four abreast can walk 16 miles and plow 4 acres.

A large steel pulley carrying 2 feet of twisted chain, or wire cable or new rope, with a loop in each end for the clevises, makes a good four-horse plow equalizer. A 10-inch steel bar with holes in each end and the middle and used in a vertical position, does fairly well. Five horses may be hitched two in front and three behind by using a special evener with a pulley on one end for four of the horses, or by using next to the plow a 15 to 20 inch horizontal evener having the lead pair hitched to one end and the rear three to the other. Three and three may be hitched similarly to a 24 to 28 inch evener to make a compact and efficient six-horse team. Four and four are sometimes hitched the same as two and two. The eight can handle a three-bottom plow and harrow or a tandem disk.

All of these hitches are in regular use on some Illinois farms. Recently they were all tried out carefully by the Farm Mechanics and Animal Husbandry Departments of the University of Illinois. Full directions for making and using them have been sent to all of the Farm Advisers who inquired about them. There will be a field demonstration at the Adams County Fair. Several Farm Bureau field demonstrations will also be held. The eveners make good material for a Farm Bureau fair exhibit. Plowing with these big hitches is a good way to turn cheap oats into efficient farm power." - E. T. Robbins, U. of I.

Look Before You Load! - "Inspection of 700 arriving cars of live stock at 7 of the large markets by supervisors of the Packers and Stockyards Administration, United States Department of Agriculture, has shown that shippers would do well to make careful examination of cars before loading them. The railroads maintain satisfactory car-inspection service at the large markets, but not all cars sent to country shipping points have moved directly from the terminals. As a consequence many cars have defects that may cripple animals or even cause their death. Of the cars inspected in this investigation 7 had holes in the floors, 91 had projecting nails in the walls, and 58 had cleats that might, and probably did, cause bad bruises. Eighty-two of the cars were without bedding, a large factor in the safety and comfort of animals in transit.

No matter who is responsible for the condition of cars, it is to the interest of the shipper always to make an inspection of his own, and most certainly it is up to him to see that the right kind of bedding is provided. Frequently, partitions are used in stock cars, and because of this a careful examination must be made for projecting nails and cleats that may have been left when these partitions were removed. The floor is the most important part of the car. It should be gone over thoroly and any holes patched. Doors must be in good repair and, when the cattle or other live stock are loaded, securely fastened.

Last year at one middle-western market, 1700 cattle and more than 2000 hogs were found crippled in cars. In December more than 1000 crippled hogs were received at one of the eastern markets. These numbers are small in comparison with total receipts, but they looked mighty large to the shippers who owned the animals.

Look before you load!" - U. S. Department of Agriculture.

Southern Feeder Hogs - "The farmers of Tennessee will probably have a good many carloads of feeder pigs which they will be offering for sale during the next few weeks. I would like to get in touch with as many hog feeders in your state who buy their feeders as possible. If you can provide me with such a list, it will be much appreciated.

I might say that we are anxious in this state to develop the production of feeder hogs, and are naturally looking to corn belt feeders for an outlet for these hogs." - A. L. Jerdan, Marketing Specialist, Extension Service, Knoxville, Tennessee.

Club Work at Aurora Makes Good Showing - "Boys and girls club work at the Central States Fair made a very creditable showing this year. The camp had enrolled during the fair 116 boys and girls.

The club live stock exhibit wasn't as large as it should have been. The clothing and canning exhibit was very good. Fifteen girls and four boys demonstration teams competed for trips to the Sioux City Interstate Fair. The Hancock county team composed of Charlotte Bolton and May Brown won the girls' demonstration contest with a demonstration on "Yeast Bread Making".

Knox county won the boys' demonstration contest with a demonstration on "The Maintenance of Fertility in Illinois Soils". Arthur Olson, Orlan Swartz and John Sutor were the members of the team.

The live stock judging contest was won by the Bureau county team composed of Raymond Hassler, Myron Smith and John Keleher. They scored 2180 points out of a possible 2700. Mercer county was a close second with 2005 points, St. Clair county was third scoring 1879 points.

The highest individual score was made by Raymond Hassler, Bureau county with 805 points, second by Myron Smith, Bureau county with 728 points and third Roland Eidman, St. Clair county with 712 points. Following are the highest scoring individuals in the different classes:

Beef Cattle

Raymond Hassler	195
Myron Smith	180
Dool Mayhew	175

Horses

John Keleher	175
Raymond Hassler	160
Myron Smith	160
Roland Eidman	155

Swine

John Keleher	272
Raymond Hassler	270
Henry Urtlich	264

Sheep

Raymond Hassler	180
Myron Smith	180
John Sutor	170

The dairy judging contest was won by Whiteside county. The members of the team were Donald Williams, Harold Gaulrapp and Elwyn Folkers. The Knox county team took second scoring 990 points." - E. I. Pilchard, Club Work.

Progress in Bee Keeping - "Union County Bee Keepers' Association held its summer field meeting at Dongola July 27. About 50 men and women were in attendance. Interest in bee keeping is increasing." - L. S. Foote, Union County.

"We were very fortunate to have a good day at our summer Bee Keepers' Meeting. A demonstration was put on showing how to transfer bees from an old hive to a new modern hive. Also, how to protect from foul breed. We hope to make considerable progress in bee culture in this county during the coming year." - W. K. Galeener, Williamson County.

"Interest in bee keeping has increased rapidly in Southern Illinois counties the past summer. A few county organizations were formed last spring. Summer field meetings have been held and the advisers are reporting good attendance and a keen interest in this branch of farming. Expert bee keepers have been present at summer meetings and have staged various demonstrations." - J. C. Spittler, Ass't. State Leader.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

September 5, 1923

No. 36

Should Production in the
Whole Milk Sections be
Greatly Stimulated

"A dairyman in the Chicago milk district recently told of a neighbor who had been a chronic kicker over the price of milk. This same man has recently added several cows to his herd. He undoubtedly reasoned that conditions are favorable for milk production at the present time and that now is the time to make a lot of milk. Unfortunately many dairymen in the whole milk

sections reason things out the same way. They too generally determine how much milk they will produce this winter on the basis of present price rather than what the price might be in the future. If the dairymen jump in now and add to their herds and greatly increase the production of milk on their farms they will soon be confronted with a large surplus of milk and an unsatisfactory price. A simple economic factor is involved, namely, that over production of any commodity tends to deflate its price.

The buyer of whole milk is interested in a uniform production that will supply the demand for urban consumption. The demand is fairly uniform thruout the year, and the price paid for whole milk is usually adjusted to insure the desired supply.

When dairymen get out of the practice of varying the size of their herds with the season and price of milk and work with more efficient producing herds built up by culling and breeding they will soon be maintaining a more uniform production. Uniform production will aid greatly in the marketing of their product." - C. S. Rhode, U. of I.

Last Call for State Fair - "County club leaders can assist materially in obtaining live stock entries in the Junior Department for the State Fair, September 15-22. The last date for entries in this department is September 10. Some time ago a supply of the Junior Department premium list was mailed to each county conducting club work. If these have not been distributed to the club members, this matter should be taken care of at once. Entries are arriving in every conceivable form, which would indicate that these premium lists have not been distributed in some counties.

We are sending out today a small folder with special instructions concerning club work at the State Fair. This folder tells how the club camp may be reached, what each member staying at camp during the fair should bring and information concerning the program of entertainment during the week.

There will be no live stock judging contest at the State Fair. The winning demonstration teams will receive free trips to the International Live Stock Exposition at Chicago the first week in December.

Counties sending demonstration teams should make entry on the regular form found on the back of the Junior Department premium list. Extra entry blanks may be had by writing this office.

Entries are rapidly coming in and everything bids fair for a good show and a good time for club members at the State Fair." - E. I. Pilchard, Club Work.

Keeping Apple Cider Sweet - "Pasteurization will keep apple cider sweet for an indefinite time. The process is very simple. Sterilize glass top jars or bottles by boiling for 15 minutes. Fill them with freshly made cider and seal. Then place them in a wash boiler on a wooden rack to keep them from touching the bottom. Cover the jars with cold water and heat slowly to 175°F. Keep pint bottles at this temperature for 15 minutes, quart bottles 20 minutes, and half-gallon bottles 25 minutes. Allow them to cool in the water bath and then store them in a cool dark place. Farmers' Bulletin 1264 will give more detailed directions if the cider is intended for sale."

"Corn for Silage must be cut fine and tramped well in the silo if it is desired to make the best quality of feed and fill the silo to its greatest capacity, says the United States Department of Agriculture. The usual length of cutting varies from one-fourth of an inch to 1 inch, but the latter is a little too long, as the pieces do not pack so readily in the silo, and they are not so completely consumed in feeding as the shorter lengths."

Picnic Results A Lesson in Organization - "Organization and a cooperative spirit are the chief factors that made the fourth annual farm bureau picnic in Wabash county a wonderful success, eclipsing all past occasions of this kind held in the county. Every committeeman did the task assigned him with a determination to do his best. A finer spirit of cooperation between city and country could not have been demonstrated. Although the picnic was held ten miles from the city of Mt. Carmel, the business houses closed for the afternoon. The table on which the dinner was served was 800 feet long giving a total of 1600 feet of table space and folks stood three and four deep around the table.

Everything went off in perfect harmony and according to schedule. Nothing seemed to be left undone to make a good time possible for every one present. Competent people had charge of supervised play for the children.

In order to help get acquainted each person at the picnic was tagged with a cardboard tag four inches square bearing the wearer's name and an appropriate quotation. Also six persons were given 50¢ apiece and it was announced that the twentieth person who shook hands with these people received the 50¢. Several contests between the Kiwanis and Rotary clubs and the farmers were held. The game of shinney and the contests between the town and country quartettes, the horse shoe pitching and the many other stunts that were put on kept things interesting all the time. The big surprise was staged just before the close when 500 watermellons were cut and given away. Many declared they had never seen any thing like it for organization and the cooperative spirit that prevailed thru the day." - J. C. Spitler.

Purebred Hog Prices Low for Year - "Purebred hogs sold at low prices in 1922, according to a survey made by the department. Reports on the sale of 30,382 pure bred hogs were analyzed, and the results indicate that the swine business has been depressed along with other branches of agriculture. The average price received for each breed, including all ages and both sexes, at both private and auction sales, was as follows:

Berkshire, \$30.57; Chester White, \$42.72; Duroc Jersey, \$45.91; Hampshire, \$44.42; and Poland China, \$41.94. Auction sale averages were from \$10 to \$25 above those sold privately.

The difference, it is pointed out, was due partly to the large number of pigs under 8 months of age sold privately, whereas auction sales are usually confined to more mature animals. This survey is a new feature of the news service work of the Bureau of Agricultural Economics and is the first of a series of surveys to be made at intervals of six months." - U. S. Dept. Official Record.

1. The temperature of the water in the tank was 75 degrees Fahrenheit at the time of the test. The water was stirred continuously during the test.

1. The first of these is the fact that the United States has a large and growing population of Negroes, who are the descendants of slaves brought to America by the British and other European powers. This population has been the subject of much discrimination and prejudice, and has been the cause of many social and economic problems. The United States has a long history of racial segregation and discrimination, and this has led to a large and growing population of Negroes who are the descendants of slaves brought to America by the British and other European powers.

1. The first of these is the fact that the Commission has not yet received any information from the Government of the United States regarding the activities of the Committee for the Liberation of the People of the South (CLPS) in the United States. The Commission is therefore unable to determine whether the CLPS is a legitimate organization or a subversive one.

2. The second of these is the fact that the Commission has not yet received any information from the Government of the United States regarding the activities of the Committee for the Liberation of the People of the South (CLPS) in the United States. The Commission is therefore unable to determine whether the CLPS is a legitimate organization or a subversive one.

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1. The first of these is the fact that the majority of the population of the United States is of European descent. This is a fact which has been recognized by the government and the people for many years. It is a fact which has been recognized by the government and the people for many years.

Watch Your Young Alfalfa - "There is at present, a general outbreak of sod webworm in alfalfa and sweet clover fields. This insect is particularly injurious to young alfalfa and has already killed a number of new seedlings. There is also a heavy flight from the south of the fall army worm and cottony cut worm, both of these insects being very destructive to new seedlings of alfalfa. Watch all newly seeded alfalfa fields very carefully during the next month. If a small greenish worm is found webbing the leaves together and then destroying the plants, dust the plants with arsenate of lead mixed with equal parts of hydrated lime or spray with arsenate of lead two pounds to fifty gallons of water using a potato sprayer for making the application. If large dark caterpillars resembling cut worms are found around the base of the young alfalfa plants, cutting them off a little above the ground, apply the poison bran mash in the same manner as for the army worm. If seedlings of alfalfa have already been destroyed, replant giving the field a thoro cultivation before the new seeding is put in." - W. P. Flint, State Entomologist, Natural History Survey, U. of I.

Cream Grading Going Good - "A few months ago the cream buyers of Wayne county all agreed to buy cream on a quality basis. A difference of 3 cents per pound was agreed upon between grade one and two. While this was more or less of an experiment so far the producers generally are well pleased with the new plan. The man who is ambitious and is willing to produce a quality product is being paid for his efforts." - J. C. Spitler.

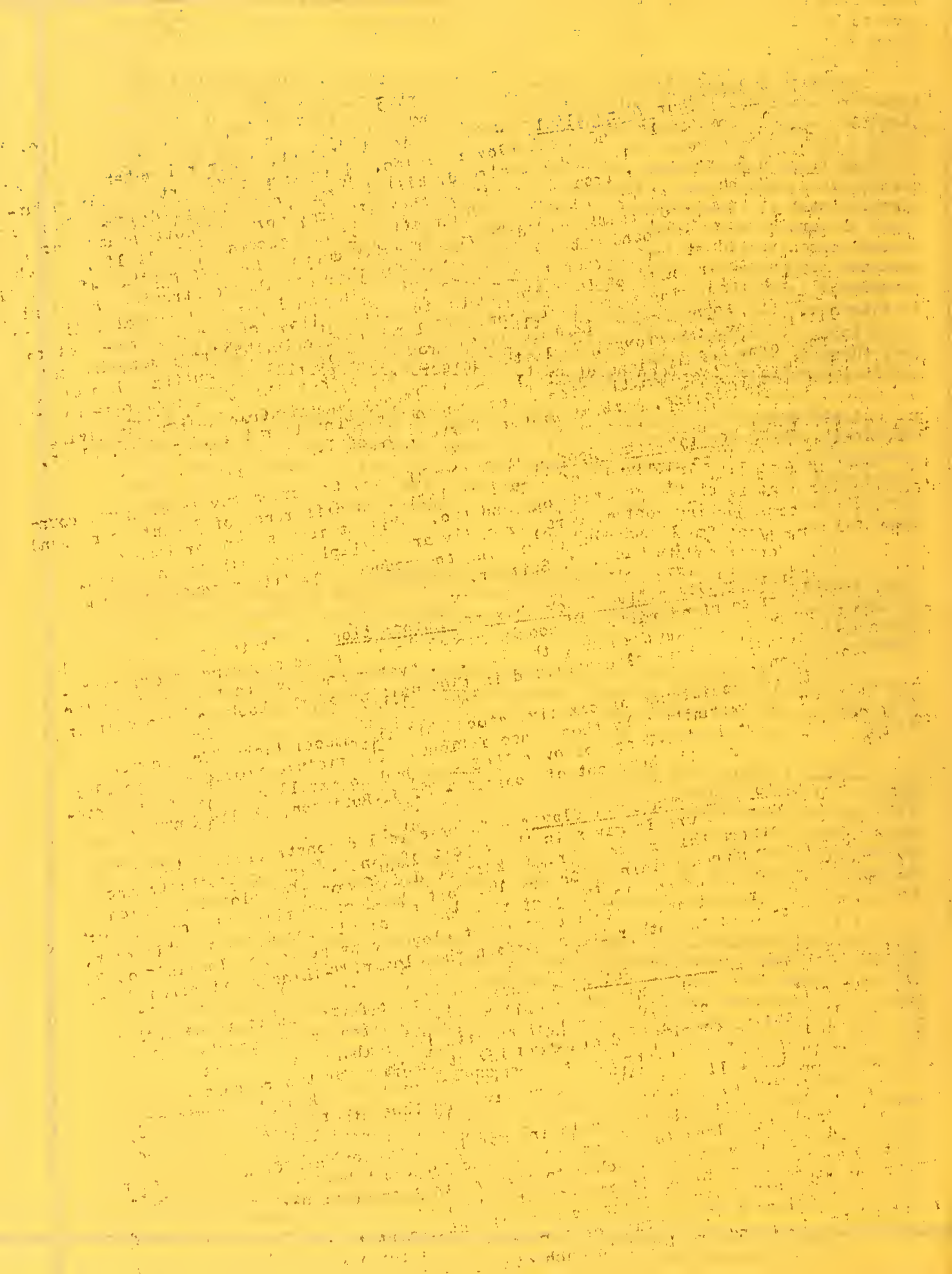
Assistance Given Live Stock Shipping Associations - "It is the desire of the Farm Bureau to standardize the bookkeeping of our various shipping associations. To this end we have recommended the I. A. A. system and have installed it in two associations. We have also assisted in the auditing of the books of two shipping associations.

With the assistance of six live stock shipping associations "Joe McGuire" was shown in communities by those associations. The picture proved very popular receiving a total attendance of over 1500. We had an excellent week for the pictures. They were all shown out of doors." - C. J. Robinson, Shelby County.

Steers to Keep Down Sweet Clover - "A practical demonstration of the value of sweet clover pasture is given in the report of Dan V. Jackson to the Comanche Farm Bureau office this month. Mr. Jackson seeded 30 acres of blow land which had hitherto produced nothing. On May 15, forty head of yearling steers were put on pasture. On May 28 due to the fact that these animals could not keep it down, 62 more head were put on. This recent sweet clover convert is now looking for 20 more steers to help the other 102 keep down the clover." - Kansas Extension News.

Membership Signs to be Put Up - "During the next few weeks it is hoped that the new Farm Bureau membership signs will be put up all over the county. They are attractive blue and white enamel signs with the member's name painted at the top. The executive committee decided to invest in them for two reasons -

1. They will greatly increase the efficiency of the work of the advisers, in that they will tell where the members live and thus help advisers and members to become acquainted.
2. The signs will help in developing morals in the organization. A farmer should be proud to belong to a farmers' organization and ashamed if he does not belong. It has always been preached to farmers that they cannot stick together. Nevertheless, they are doing it on a constantly increasing scale. Recently Dean Mumford of the University of Illinois made the statement that "Agriculture, unorganized is helpless." The future of farming as an occupation is dark unless farmers stand together and are loyal to each other." - J. W. Whisenand, Henry County.



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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

September 12, 1923

No. 37

Farm Accounts

Prove Valuable

"Farm account books are proving to be of much value to farmers thruout the state. Approximately 1000 of the simple farm account books prepared by the Department of Farm Organization and Management of the University of Illinois were distributed for use among farmers of Illinois in 1923.

A careful study made recently of the records kept in these farm account books by 19 Woodford county farmers for 7 consecutive years shows clearly the value of keeping such accounts. This study shows, first, that the average of the 19 men received a net income of about \$550 more in 1922 than did the average of 45 other apparently as good farmers who began keeping such accounts in 1921 or in 1922.

The study shows in the second place that there was a difference of approximately \$2000 net income per year for the 7 year period between the best managed five and the most poorly managed five of the 19 farms. If each of the five poorest farms provided a living for the operator, each of the five best managed ones provided as good a living and an additional return sufficient to buy a good farm in from ten to twenty years.

In the third place the records indicate that the farms showing the best net incomes are those which are at least fairly good along all lines and are not poor in any essential factor.

Probably the greatest value of keeping these accounts according to a uniform plan such as the University of Illinois account book provides is that it enables the farmer to diagnose his own situation. If at the end of the year he finds that his farm is less efficient than the average of a considerable number of farms keeping the same kind of records in crop yields, in returns for capital invested in and feeds fed to live stock, in number of acres of crops worked per man and per horse, or in the amount of expense for a given income, he will know where and can study out the way in which he can make changes which will increase his net income.

The men who secured the books last winter should bring them up to date showing the acres in crops, yields of small grain and hay, and keep them in good shape the remainder of the year showing the returns from money invested in live stock, the number of acres worked per man and per horse and of the expenses and receipts. With these records they will be able to analyze their business at the end of the year with a considerable degree of accuracy." - M.L.Mosher, Dept. Farm Org. & Mgt.

"The Third Annual Illinois Soybean Day was held at the University, Thursday, September 6th. The day's program started with a tour of the South Farm at 10 a.m. This tour not only included soybean studies, but corn disease work and alfalfa experiments. The afternoon program was opened by an address by Dean Mumford, who outlined the soybean investigational work of the several departments of the Experiment Station. By making acreage comparisons of the crop in the State during the past five-year period, Dean Mumford also showed very clearly the increasing importance of soybeans in the state.

Mr. W. J. Morse, of the U. S. Department of Agriculture, gave a bird's eye

view of the soybean crop of the United States, showing the various uses and the comparative importance of the crop in the respective sections of the country.

The remainder of the program was devoted to a discussion by representatives of the several departments on the investigational work with soybeans. Professor Sears discussed the importance of lime and inoculation on the crop; Professor Rusk, for the Animal Husbandry Department, and Dr. Nevins, for the Dairy Husbandry Department, discussed the feeding values of the various soybean products for live stock; Professor H. C. M. Case reported that the cost of production of soybeans last year in Champaign and Piatt counties, with a yield of 15.3 bushels, was \$1.46 and he compared this with other common crops.

Mr. C. O. Aspenwall, of the International Harvester Company, of Chicago, discussed very briefly the needs of the crop as he saw them from the machinery manufacturer's standpoint. Mr. H. S. Clapp, President of the Virginia Crop Improvement Association, reported in a few words the soybean work which is being done in his State, where the Virginia variety of beans is being grown more extensively each year." - J. C. Hackleman.

U. of I. at National Ram Sale - "The University of Illinois consigned five Rambouillet rams to the National Ram Sale held at Salt Lake City, Utah, on the 27, 28 and 29th of August. Two of the rams were two-year olds, the rest yearlings. Altogether there were 1750 Rambouillets at the sale, 800 Hampshires and several hundred representatives of other breeds. As a general rule, prices were lower than at last year's sale. This was especially true of prices for range rams. Good stud rams sold well. The top price for a Rambouillet was \$800 for a yearling from the Millar flock of Utah. The next highest price paid was \$625 for a yearling, U. of I. 928, from the University of Illinois flock. U. of I. 928 was fifth as a lamb at the 1922 International. He attracted considerable attention at that time. He had remarkable density and uniformity of fleece combined with excellent type. He was purchased by Bullard Brothers, Woodland, California, long recognized as among the foremost breeders in America. The two-year olds sold for \$150 each.

Sheepmen in the West in general are optimistic. Had wool sales continued this would have been an unusual year. The ranges are good in most sections and lambs have made good growth. Feeder lambs were being purchased in southern Colorado at \$10.50 to \$10.85 weighed at the ranch." - W. G. Kammlade.

Methods of Reducing Silage Losses - "Now is a more opportune time to think about silage losses than next winter when the moldy silage is found, as most of the trouble dates back to silo filling time. The proper preservation of silage depends upon a few principles that cannot be overlooked if good silage is desired. The walls of the silo must be tight; the corn should contain sufficient moisture, should be finely cut and well packed.

A total absence of oxygen or air is absolutely necessary if good silage is made as the presence of air permits the growth of molds. Molds will develop only in the presence of air or oxygen. One of the most common silage troubles is the moldy flakes that may be found thruout the silo. If the silo filling is done in such a manner as to drive out all air pockets, molds will not grow and there will be no moldy flakes. Tight silo walls, sufficient moisture, and uniform and thoro packing will eliminate the air pockets and the bulk of the silage troubles. In packing it is well to keep the outside slightly higher than the center." - C. S. Rhode.

Results of Club Work - "Some 115,000 head of live stock thrived under the latest approved methods of care and feeding in 1922, due to the fact that they were kept by boys or girls who had joined a pig club, a beef club, or a dairy club, the actual care and management of the animals being amajor part of club work. According to reports to the U. S. Department of Agriculture there were more than 78,000 of these young stockmen enrolled last year which represents an increase of nearly 10,000 over the enrollment of the year before." - U. S. D. A.

Advisers Render Service at Fairs

"During the past month the farm advisers gave much assistance to their local fair boards in helping to arrange and hold their fairs. Farm bureau exhibits, pageants, boys and girls club and judging demonstration featured the activities arranged by the advisers. A few reports will serve to emphasize the kind of service rendered." - W. H. S.

Knox County - "The Knox county and the La Fayette Fair were held the last week in August. Even tho both these fairs are in Knox county the attendance was unusually large. The Knox County Fair reports the largest attendance in 68 years. The farm bureau exhibit at Knoxville consisted of 56 different kinds of weeds, a corn disease display comparing the yield of nubbins, unsound corn and marketable corn, produced from different samples of seed which were on exhibition; also a soil booth with a member of the high school demonstration team, that won at Aurora in charge. An exhibit at La Fayette by the Knox county and Stark county farm bureau featured hog vaccination, poultry culling and another soil booth, with a member of the same demonstration team in charge. Five local pig clubs were represented at the Knoxville and La Fayette Fairs, with 54 pigs in the pure bred gilt classes, five in the sow and litter and 11 fat barrows. It is conceded to be the best pig club show in the history of the county fair." - L. R. Marchant.

Clark County - "The farm bureau office was moved to the Fair Grounds during the Clark County Fair. A tent 20' by 40' was used by the farm bureau exhibit, which consisted of beans from our various variety plots, showing the possibilities by the use of lime and the plowing under of sweet clover; and pens of poultry placarded with the why and wherefore of poultry culling.

During the fair, several hundred soil samples were tested and 800 tons of limestone ordered for use in the immediate future. The Clark County Pig Club closed during the fair with over 70 pigs being on exhibit. This feature of extension work was well taken care of. On an average 1100 people visited the Farm Bureau Exhibit per day." - W. W. Merritt.

Kane County - "It may be of interest to some of the Farm Bureaus to know the basis on which our farm bureau exhibit won over the three others at the Central States Fair at Aurora. The judges stated it was because we featured one thing well. The subject of the exhibit was "Soil Acidity" featuring most especially the Comber test with samples of soil from roadside vs cultivated field, high land vs low land and depth of soil as to lime content. Specimens of legumes were arranged and numbered in the order of their sensitiveness to acidity." - W. B. Richards.

Woodford County - "The farm bureau office was moved for a week to the District Fair held at El Paso. The farm bureau as usual had a tent in which they had prepared an exhibit. A feature of the exhibit consisted of reproducing the Morrow plots in miniature. The corn and oats were planted about a week beforehand so that they were about 5 inches tall during the fair. Different dates of planting were used to indicate the difference between the treated and untreated plots. A chinch bug barrier, limestone sweet clover demonstration and a T. B. exhibit were also used." - P. E. Johnston.

Johnson County - "The Boys' and Girls' Pig Club exhibit at the Fair received many complimentary remarks and attention. While the pigs were being judged a race was going on on the track, but nevertheless we had many more people trying to watch the judging than could get a good view of the ring. We were pleased to have this occur as the directors of the fair hesitated in the beginning in cooperating with us in club work." - J. G. McCall.

Marion County - "At the county fair, we had a special exhibit of the result of insects and diseases attacking fruit trees, and the methods of control. Also had an exhibit of different kinds of legumes to demonstrate the methods of building up the soil. Also exhibited a bundle of wheat from each of our variety test plots and gave the yield of each." - F. J. Blackburn.

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

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Timely Notes for Farm Advisers and others from the
Agricultural College, the Experiment Station,
and the Extension Service

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

September 19, 1923

No. 38

Forced Molt

Not Profitable

"Every now and then some one inquires about the advisability of forcing the laying flock into an early molt with the expectation of getting them back into production while egg prices are high. This is a fine theory, but it is difficult to work out in practice. It is a simple matter to force the molt at almost any time

that may be desired, but it is by no means easy to bring the flock so handled back to a high level of egg production during cold weather.

It is, of course, more or less unnatural for hens to lay during the winter months. It is only by providing comfortable quarters, stimulating feeds, and environment that to some extent approaches spring conditions that we are able to get high winter production. Generally speaking, the problem is increased rather than simplified when an early molt of all females is induced. Unless one is able to use artificial light on the hens to give them a working day thirteen or fourteen hours long, the chances are not very good for increasing the total income thru a forced molt.

A further reason for not forcing the molt is that this practice tends to eliminate most of the differences by which we are able to separate the high from the low producers. When no change in feeding is made and a standard ration is being supplied at all times, it is safe to assume that those hens that stop laying early in the summer are the poor individuals while those that continue to lay until late in the fall are the best hens in the flock. If all are induced to stop early by means of a forced molt, the possibility of accurately distinguishing between the good and poor hens is very much reduced. What experimental work has been done on the subject points to the conclusion that the forced molt is not likely to be profitable from an egg production standpoint." - L. E. Card.

Well Fed Dairy Herds Return Sure Profits - "Lack of proper understanding and knowledge of the principles of feeding and the fact that much of the available information concerning the proper methods of feeding and managing the dairy herd is in a highly technical form, are two chief reasons why dairymen fail to use the best methods in their feeding operations," says W. B. Nevins in Circular 272 entitled, "Feeding and Management of the Dairy Herd", just issued by the Illinois Experiment Station.

A feature of the bulletin that should make it of more than usual value in the hands of the practical dairyman is the feeding charts for the leading dairy breeds. Different grain mixtures are suggested for different combinations of legumes and non-legume roughages.

A chapter on care and management containing many timely and practical suggestions will be an asset to every dairyman who is interested in improving the efficiency of his herd and in increasing his profits thru lowering his production costs on dairy products. - J. D. B.

Babson Says - "Fundamental statistics are more important to the business man than those reflected in the figures on his own books, for fundamental conditions have more to do with his success."

Illinois Farmers Adopt Improved Practices - "One of the primary projects promoted by practically every farm bureau in the state has been the use of limestone and an increased acreage of legumes. The accumulative effect and the results of the five or ten year's work on these projects are evident from the following quotations." - J. D. B.

"We believe this will be one of the best seasons we have ever had for fall planted alfalfa and we have ordered more alfalfa seed for farmers this year than ever before." - Alfred Tate, Monroe County.

"Six carloads of limestone were ordered during the month of August. The acreage of alfalfa, sweet clover and soybeans has been doubled during the past year." - A. J. Gafke, McHenry County.

"The extension of the alfalfa acreage has been one of the main projects of the farm bureau during the present season, and the acreage will be doubled in the county this year. The farm bureau has purchased \$800 worth of S. D. No. 12 alfalfa seed for members to sow this season." - R. C. Doneghue, McDonough County.

"This summer has seen an awakening of interest in the growing of alfalfa and there have been a large number of fields of alfalfa sown. The weather conditions have been such that everything is favorable towards the men getting good stands; where the soil contains sufficient lime." - A. L. Higgins, Moultrie County.

"Limestone companies who offer a price concession coupled with some agitation from the farm bureau organization have increased the demand for limestone more than 400%. We started our campaign aiming at 100 cars but before the year is over it will likely pass 125 cars. Half of these are beginners." - F. E. Fuller, Marshall-Futnam County.

"Practically 750 acres of alfalfa will be seeded in Pike county this fall which will bring our total acreage to near 3000 acres. The government report shows that Pike county had about 160 acres in 1909 and very little more than this was in the county in 1919. Our estimate at the present time is about 2750 acres, the government reports showed us to have 2000 acres last year." - Otis Kercher, Pike County.

"Never before in the history of this farm bureau has the demand been so strong for limestone as it has during the past 30 days. Forty carloads were ordered thru this office during the past months and many elevators and shipping associations are now handling limestone at the request of the farm bureau. This is partially due to the fact that local men appointed by the directors to have charge of the soils work, have used their influence with the elevator authorities." - L. R. Marchant, Knox County.

"As a result of the farm bureau's work on soil testing, more interest is being shown in limestone and alfalfa. Men who are not members of the farm bureau are showing friendly attitude, because they want the best available information relative to liming of land, sowing of alfalfa seed, and kind of seed to use. They show distinctly that they have some things to learn and their minds are receptive to advice especially when they see that farm bureau members are the only ones who are making a big success with alfalfa and are now cutting their third crop of fine hay." - O. M. Allyn, De Witt County.

"Soil testing together with the soil meetings that were held in June have brought about the ordering of 19 carloads of limestone containing 1000 tons." - A. A. Olsen, Warren County.

"More than usual interest is being taken this fall in the sowing of alfalfa. Quite a large number of farmers have already ordered seed and will sow good sized patches. Limestone orders are likewise coming in rapidly." - E. M. Phillips, Greene County.

"The favorable season has been conducive to a greatly increased acreage of alfalfa. The farm bureau has ordered more limestone and alfalfa during August than any previous time in its history. This alfalfa acreage will be at the expense of the wheat acreage." - G. B. Kendall, Morgan County.

Features at Fairs and Picnics - "One of our leading projects this month has been the promoting and organizing of an agricultural fair. There are no entry fees, no admission fees. The whole thing is financed with concessions, voluntary subscriptions and state and county aid. A better fair is put on than in most counties. It's the only one of its kind in the state to the best of our knowledge." - C. E. Hay, Christian County.

"One thousand rural people took part in the cast of the three day pageant at the Carroll County Fair, August 29-31. Local community groups from every section of the county took responsibility for developing and presenting the various scenes. Costumes were made by local people and they proved a big feature in the success of the project.

Carroll county is to be congratulated on their initiative in introducing this type of entertainment on county fair programs in Illinois. It was a creditable presentation and everyone who participated seemed to appreciate the opportunity afforded them. Miss Nina B. Lamkin was in charge of the dramatization of the pageant." - J. D. Bilsborrow.

"The Farm Bureau, cooperating with the Holstein Breeders' Association, put on a Holstein exhibit at the county fair. The fair board limited all exhibits to Mc Henry county. Every animal exhibited in the dairy classes were from farm bureau members. A total of 51 animals were shown. A sign giving the name, address of each breeder together with the organizations with which he was affiliated, was placed over each man's entry. All were farm bureau members, all Holstein breeders were members of the Holstein Association and all except two in the dairy classes were members of the cow testing association. The two non-members of the cow testing association will join the association in October." - A. J. Gafke, McHenry County.

"We are well pleased with the results obtained from our exhibit at the county fair. Only one thing was stressed; namely, the use of limestone for the growing of more legumes. Suggestions made by the Extension Office for an exhibit of this character were followed. We found it very practical and feel sure that they produced excellent results. Samples of different soil types were placed in heaps on a properly covered table. Test tubes showing the acidity test of each sample were placed on the heaps. Road side native soil was compared with the same in the cultivated field adjoining. Many men who had never asked for any soil testing service manifested a great deal of interest. One of our most successful soil testing demonstrations in a township where very little of this work had been done, has been made following the interest aroused at the fair exhibit. Others visited the tent early in the week and returned later with samples of soil brought from their home farms and tests were made on the fair grounds. We have also had a number of office inquiries from men, who apparently saw how busy we were with the exhibit, and postponed their requests until coming to the office." - Charles H. Keltner, Winnebago County.

"The Farm Bureau Picnic was held on August 24 and was thoroly enjoyed. Heretofore we have endeavored to have a speaker, but this time we tried the picnic without a speaker, merely furnishing plenty of contests, and lots of good band music thruout the day. One of the best features of the contests was the baseball throwing, in which 39 men took part. This was even more attractive than the horseshoe pitching. Not only the men wanted the opportunity to throw the ball, but the ladies were anxious to try their hand in this contest." - J. R. Shinn, Fulton County.

"The fourth annual farm bureau picnic was held at New Canton on August 8th. Due to a heavy rain the night before and threatening weather the day of the picnic only about 1500 or 2000 were present. This is the lowest record we have had at any picnic. The picnic was insured against rain and the \$200 insurance collected is a nice nest egg for a picnic another year. This insurance cost us \$15." - Otis Kerner, Pike County.

The Extension Messenger

SEP 29 1923

Timely Notes for Farm Advisers and others from the
Agricultural College, the Experiment Station,
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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

September 26, 1923

No. 39

The Value of Good Foundation Animals

"Recently I visited the historic region of important Jersey breeders of 45 years ago between Nashville and Columbia, Tennessee. In this region many famous animals were developed, and here also some of the first work toward Production Records was done.

Mr. James L. Cooper was one of the Jersey breeders in this region. He bought the great cow "Golden Eye", No. 4407 in 1878 for \$300, which was considered a big price at that time. He never purchased another female but bred up a large and successful herd from this one cow. He sold a carload of Jerseys at one time and in 1907 held a sale in which he disposed of over one hundred head; all the descendants of the original cow. He kept enough to continue his breeding and a few years ago he registered a total of 422 head of which 362 were females and 60 males, all being the descendants of his old foundation cow "Golden Eye". These facts should make a dairyman take thought as to the character of foundation animals from which he is building his herd.

Good bulls also played an important part in the development of this Cooper herd as well as the Jerseys of this region. With the great cow "Golden Eye" and the blood of the famous sire "Tormentor" imported in 1878, which belonged to his friend, Mr. Cooper laid a fine foundation for his future herd.

Major W. J. Webster, one of the earliest developers of Tennessee Jerseys, altho past eighty years of age told with great vigor and enthusiasm the care and accuracy exercised in making the churn tests on his noted cow, "Landseer's Fancy", over forty years ago and ten years before the invention of the Babcock test. Mr. Webster along with Major Campbell Brown started the first "Test Book" in the early 80's. Great credit is due these men for having the foresight and energy to start such an important movement among the breeders of dairy cattle." - W. J. Fraser, Dairy Dept.

Police the Cattle Lots - "Winter is the "bug-a-boo" of the cow man. So long as the weather is warm his worries are few, but with the coming of winter his cares rapidly multiply. Then his four footed charges are dependent solely on him for their feed and shelter, and worries they will make him a plenty if he has not made adequate provision for supplying them with both. Fortunate indeed, is that cattleman who has literally "made hay while the summer sun shone" and who has repaired sheds, lots and feed racks during the pleasant days of autumn. For such a man the sudden coming of a cold driving rain just before dusk on a late October day has no fears. With a feeling of genuine satisfaction he opens the barnyard gate before which the wet cattle have gathered and after a few minutes work with the pitchfork goes to his supper, leaving the cows and calves contentedly chewing hay in the dry, well-bedded sheds.

Meanwhile his less provident neighbor has made a fairly good start on a two hours job of fence fixing by lantern light, after which a team must be harnessed and hitched to bring in from the pastures some feed racks that are now sadly needed at the sheds. With good luck the cattle may be inside by eight or nine o'clock. Let us hope that they do not have to stand knee deep in manure left there from the previous winter, as they crowd around the feed rack. Clean up and repair the feed lots before they are actually needed!" - R. R. Snapp, Dept. Animal Husbandry.

1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It is a summary of the work done and the results achieved. It is a general statement of the work done and the results achieved. It is a general statement of the work done and the results achieved.

2. The second part of the report deals with the specific work done during the year. It is a detailed statement of the work done and the results achieved. It is a detailed statement of the work done and the results achieved. It is a detailed statement of the work done and the results achieved.

3. The third part of the report deals with the financial statement of the year. It is a statement of the income and expenditure of the year. It is a statement of the income and expenditure of the year. It is a statement of the income and expenditure of the year.

4. The fourth part of the report deals with the conclusions and recommendations. It is a statement of the conclusions and recommendations. It is a statement of the conclusions and recommendations. It is a statement of the conclusions and recommendations.

Fall and Spring Plowing of Green Sweet Clover - "One of the most important reasons for the use of sweet clover as a green manuring crop is to furnish the following corn crop with an abundant supply of available nitrate nitrogen. Then the sweet clover should be so handled as to insure the maximum production of nitrate nitrogen at the time of maximum consumption by the growing corn.

If, for reason of distribution of labor, sweet clover is plowed under in the fall of the same year in which it was sowed, the freshly plowed land presents ideal conditions for the loss of plant food by leaching during the winter months.

The leaves of the sweet clover plant containing the most easily decomposable nitrogenous compounds, are the first to suffer loss by decomposition and leaching. By spring, only the residual woody parts of the plant are left in the soil, and this material is unable to furnish the growing corn crop with nitrate nitrogen at a time when most needed by the young corn plant.

Sweet clover when plowed under in the fall will, in most cases, sprout again in the following spring and it will be necessary to either plow or disk before it is possible to drill in the corn.

On the other hand, if the sweet clover is allowed to remain upon the land until the following spring, and then plowed under from one to three weeks before the corn is planted, much plant food will be saved by the heavy growth of tops which die down upon the land and prevent much of the loss by leaching. With warm weather in the spring, the large roots soon push up vigorous tops which, when they are about knee high, are in excellent condition to turn under and furnish the growing corn crop with an abundant supply of nitrate nitrogen at a time when most needed by the young corn crop." - T. E. Richmond, Soils Dept.

Plowing the Second Growth of Biennial Sweet Clover - "Some farmers have experienced considerable difficulty in plowing under their second years' growth of biennial sweet clover. I know of a few instances where they found it so difficult a job that they stopped plowing until the sweet clover had been burned. Burning sweet clover is not a good practice from a soil fertility standpoint, and consequently an effort has been made to determine the best method of plowing it under. One set of rules cannot be made up to suit all conditions. However, a number of methods used by farmers may work in other fields.

There is one requirement that will apply to all jobs; namely, the plow should be properly set. The rolling coulter should be sharp and properly set, the share sharp and the point turned down to give proper suction. A general adjustment of the coulter would be to have it clear the shin of the plow by about $\frac{1}{4}$ inch and cut $\frac{1}{2}$ or $\frac{3}{4}$ inch outside the shin and 2 or 3 inches deep. Don't try to use a plow that couldn't be recommended for general plowing.

Because of the wiry nature of the standing sweet clover it is sometimes hard on the horses' legs and some men have found it necessary to use canvas or other material as a protection for the horses. I visited one farm where the sweet clover which was $4\frac{1}{2}$ feet high, was being cut up by double discing. A tractor was being used to pull the disc. Working down sweet clover with a roller or long pole has proven effective in some cases. It is usually best to drag the same direction as plowing. The larger the plow and the coulter and the more clearance under the beams the less chances of trouble in clogging. One farmer had little trouble after he put on a 20 inch coulter. Attaching a heavy wire or chain to the rolling coulter or the front end of the beam will in most cases be of much help in turning under the sweet clover. The wire or chain should extend past the moldboard in order that the turned soil will keep it tight." - F. P. Hanson, Farm Mechanics Dept.

Self-Feeders Popular - "Self-feeders for their hogs were installed by over 27,000 farmers in 1922 as a result of demonstrations of agricultural extension workers in improved methods of swine management according to reports to the United States Department of Agriculture.

Competitive Cow Contests - "In the earlier days of testing cows for milk and fat production there were many competitive tests in which cows of same or different breeds were entered. Undoubtedly these tests have served a useful purpose in calling attention to the importance of such fat tests on dairy cows. One of the earliest to receive wide public notice was that held at Chicago in 1893. The St. Louis competitive test in 1904 was also widely heralded. Wisconsin conducted a state competitive test in 1909-11 and Illinois in 1910-12. The awards in some of these competitions have been made on the basis of the fat yields and in other cases a more or less complex system has been used whereby credit was given for the other solids of the milk as well as the fat.

Occasionally such competitions are still conducted at county fairs and this note is offered as a suggestion for a simple method of crediting a cow with both milk and fat production. The method is to credit the cow for milk (in pounds) of 4% fat content by taking the sum of $4\frac{1}{10}$ the amount (pounds) of milk actually produced plus 15 times the amount (pounds) of fat in the milk. This may at first sight appear to be an entirely arbitrary method, but in fact it is not. It rests on a sound physiological basis in that normal or average milk of any percentage fat content may be converted into an equivalent amount of 4% (fat) milk on the basis of energy value by the formula $.4M + 15F$, where M. is pound of milk and F. is pounds of fat in the milk. The use of the method given is justified both on the human food (energy) value of the milk and on the amount of feed required by the cow, so far as affected by fat percentage." - W. L. Gaines.

Caponizing Worth While - "Caponizing seems to be a more interesting subject among the poultry people than culling. Several farmers have had a half dozen cockerels caponized just for their own use and to give the practice a trial. One demonstration was held with a good attendance. After a couple of birds were caponized anyone wishing to learn the art was permitted to do the work himself." - F. W. Wascher, Effingham County.

Local Pageant a Success - "Our Farm Bureau picnic held August 29 was a success. The main feature was a pageant parade in which was entered floats from townships, granges, and other agricultural organizations. Seventeen floats were in the parade and they represented the efforts of many farmers from every part of the county. The floats would have been a credit in any parade. About 2500 people attended the picnic. This is the second pageant parade held in Gallatin county and we think it a good way to keep up interest." - C. W. Simpson, Gallatin County.

Production of Feeder Hog Profitable - "Clinton County Farm Bureau held their first feeder hog sale the last week in August. Five men consigned 75 head of hogs that were produced largely on legume pasture. Cost of production records were kept by three of the men. The hogs sold thru this sale returned a profit and demonstrated that the idea of producing feeder hogs on legume pasture with a small amount of grain is practiced." - J. C. Spitler.

Juniors Make Good Show at State Fair - "Seven hundred and fifty exhibits were made in the Junior Department of the Illinois State Fair this year by the boys and girls club members and the vocational high school students of the state. The exhibits were divided as follows: 250 clothing, 200 canning, 200 pig club and 100 other classes of live stock.

Fourteen demonstration teams were present and gave demonstrations. Woodford county stood first among the boys winning on a Swine Management Demonstration, Ford county stood second, McLean county third and Shelby county fourth. Among the girls demonstration teams Mercer county won first, Rock Island and Hancock tied for second and Logan county was third. The winning teams will be awarded trips to the International Live Stock Exposition." - W. H. S.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

October 3, 1923

No. 40

Give The Fall Pig A Chance

"Thousands of fall pigs are produced at a loss every year. With a reasonable ratio of feed costs to market prices this loss can be turned into a profit. How can it be done?"

First: Have the pigs farrowed during the latter part of August or the first part of September. Very few late farrowed pigs do well enough to pay for the extra care and attention they require. It is too late now to change the farrowing dates on this year's fall pigs but plan now to have them come early next year. When two litters a year are raised per sow, early fall pigs can only be had by breeding for early spring pigs. Late spring litters mean late fall litters.

Second: Push the fall pigs from the first. See that they get a good start while the weather is still warm. A fall pig which has not made good growth by November 15 has a poor chance under ordinary farm conditions. Give pigs intended for market purposes a self-feeder from the beginning. Use proper feeds as well as plenty of feed. Fall pigs need tankage, milk or other protein supplements and the chaff from legume hays in addition to all the corn they will eat. Don't forget that pigs must have water and arrange to have it warm if possible.

Third: Provide a dry draft pig house or shed of some sort. Feed and water will avail nothing without proper shelter.

Fourth: Plan sanitary quarters for the fall pigs. Move your portable houses out on the stubble field.

Fifth: Keep fall pigs in small bunches. Fifteen pigs in one shelter is enough. Ten to fifteen pigs cannot pile up badly.

Give the fall pig a chance." - R. J. Laible, U. of I.

More Interest in Horses - "A survey of the number of horses and mules on farms in Illinois indicates a slight revival of interest in horse breeding this season. The total number of all horses and colts on farms July 1 is reported at four-tenths of 1 per cent more than the number on July 1, 1922. The number of colts dropped this season is 8 per cent more than reported for the 1922 season. 21.4% of farms reporting show colts born on their farms this season, compared with 19.6 per cent of the number of farms reporting colts in 1922. A survey will be taken again in January to determine whether or not horse numbers will hold up to that of last season after the losses for the remainder of this season have been recorded. The number of horses on Illinois farms, while little changed from that of a year ago, shows a decrease of 9 per cent from the number recorded by the U. S. census in 1919. Owing to shipments into the state, the total number of mules and mule colts in Illinois shows very little change from that of a year ago, but the number of mule colts dropped this season is reported 37 per cent less than for a year ago." - A. J. Surratt, Agricultural Statistician.

Important Circular - "Farm Advisers' attention is called to Circular 273, "Bacillary White Diarrhea of Chicks" which is being mailed out now from the Illinois Experiment Station. It contains a brief statement for the farmer, of the cause of this disease, how its presence may be recognized in a flock and how it may be combated." - J. C. Spitler.

Feeding Off Crops - "Feeding off crops offers a practical means of lowering production costs, hence increases the farmer's profits. The direct saving in this method of harvesting is three fold; the labor required to harvest this part of the crop, the storage space necessary to care for it until marketed, and the greater economy of marketing a concentrated product. Because of the relatively short harvesting season for any crop, and the labor demands of this period, the saving here is important and may obviate a loss due to weather conditions.

Feeding off crops also offers indirect profits; it fits in with a permanent system of agriculture. The manure and crop residues are left upon the fields where they may be utilized for future crops with no cost for hauling. Legumes thus fed return a profit with but little loss of fertilizing value. More sanitary conditions are secured than in feeding lots; the exercise required is a further aid to thriftiness and good gains. Hogs, cattle, and sheep may be used in feeding off crops. Corn and legume forage crops are most commonly harvested in this manner. Crops which might otherwise be largely lost, may return a profit in this way. This is often true of lodged small grains, and soybeans in corn.

Grain crops thus used should be sufficiently mature to have a high nutritive value. Animals should be accustomed to this practice gradually by bringing to full feed before turning into the crop. They should be limited to an area which will be cleaned up in from ten days to two weeks. This may be economically done by temporary wire fences. The length of the feeding off season varies with the crop and with weather conditions. The live stock plan may well provide animals of suitable size to thus utilize crops. By feeding off a part of his crops the farmer may increase his crop acres per man, and decrease the labor requirements on crops - two important factors of good management." - R. C. Ross, Farm Org. and Mgt., U. of I.

The Object of Demonstrations - "The June report of one county agent reads in part as follows: "An outbreak of grasshoppers in the southern part of the county has appeared as we expected from the outbreak last year. The work done last year has placed most of the farmers in a position to prepare their own poison bait and to take such other steps as are necessary in combating the insects."

The last sentence above illustrates an idea that Extension workers cannot afford to lose sight of. If in the previous year the agent had mixed the poison, not as a demonstration but simply in order to render the farmers a service, and had secured its distribution with the same thought in mind, no doubt it would have been necessary for him to devote at least as much time to the same job this year as last. It is a safe bet that several farmers in the communities that were infested with grasshoppers learned how to mix the poison last year and also did some of the actual work of mixing. They are doubtless now sources of information for their less fortunate neighbors who were either not able nor sufficiently interested to attend the demonstration meetings last year.

When considering Extension work and its possibilities, the most hopeful feature that presents itself is the fact that there is in every community at least one person who will literally seize on new methods of farm practice that are improvements over the old and by their enthusiasm and the demonstration of the practice on their own farms, secure the adoption of the practice by a majority of their neighbors. The women and young people are no exception and frequently prove to be the best demonstrators that can be secured. A few such persons in each community are the real foundation on which successful extension work must be built." - New Mexico Extension Service News.

Successful Soybean Meeting - "The soybean meeting on September 3 was a great success. The fact that every township in the county was represented at an 8:30 a.m. meeting, following an all-night rain is worthy of commendation." - J. W. Merritt, Clark County.

1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It is a summary of the work done by the various departments and a statement of the results achieved.

2. The second part of the report deals with the work done by the various departments during the year. It is a detailed account of the work done by each department and a statement of the results achieved.

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Eastman Answers Call to the Farm - "W. R. Eastman, who has been adviser in Pulaski County the past three years left extension work at the expiration of his contract, September 20th. He recently purchased a farm in North Central Iowa which will be his future home." - J. C. S.

Limestone by the Train Load - "Two special limestone trains were unloaded September 10 and 17. A total of 52 cars or 2410 tons were unloaded between Effingham and Wheeler, a distance of 14 miles. Side dump cars were used and unloaded along right-of-way wherever farmers wanted it. Average hauling distance saved, two and one-half miles. Extra cost of unloading about seven and one-fourth cents per ton. A third train is to be unloaded on the Wabash railroad between Shurtz and Altamont as soon as details are arranged. We are endeavoring to get these men to follow up the use of limestone with some alfalfa or sweet clover next year." - F. W. Wascher, Effingham County.

Culling Proves Profitable - "Have just finished the poultry culling work for this year. We may have a few demonstrations scattered thru October. I notice a very marked change in the flocks culled this year that were culled a year or two before. The owners have very much better laying stock and the hens are in a better laying condition in the flocks that have been culled before. There is a marked difference between these flocks and flocks that have never been culled." - F. J. Blackburn, Marion County.

Making Ten Litters - "September has been a month of weighing of ten litters. Contestants have learned that a good many things can happen to a litter between farrowing time and the time the litter is 180 days of age. They have also learned that in order to keep the litter growing and developing vigorously that it takes eternal vigilance and in addition, a lot of feed of the right kinds." - H. Fahrnkopf, McLean County.

One Hundred Percent Sign - "The greater part of our time this month has been taken up with the reorganization campaign. As a part of the preliminary work we held at least one meeting in every township of the county. In general, these meetings were very well attended. Our School of Instruction was held in Biggsville on Tuesday, September 18, with 80 in attendance. The I. A. A. was represented by J. C. Sailer and G. E. Metzger and the University was represented by V. Vaniman. We feel that we had a very good meeting and at the close every man signed a farm bureau contract. They started out the next day to do their soliciting and along in the afternoon the county was visited by a big rain which has hampered the work ever since. Thus far a total of 344 contracts have been turned in by local solicitors." - F. M. Bane, Henderson County.

Organization - "There are four fundamental principles of organization. They apply to the running of an office or a farm as well as to a large corporation. First - must have a definite ideal or standard to work toward. Second - must have an organization of a form that is capable of functioning to secure these ideals or standards. Third - must have equipment, men, money and materials, so organization functions properly. Fourth - must have leaders that are capable of seeing that equipment, men, money, materials and organization function to attain or maintain the ideals of standards that have been set up." - V. Vaniman

Good Collection Record - "R. A. Cowles, Treasurer of the I. A. A. presided over a meeting in the north-west part of the state at which the secretaries and treasurers of five farm bureaus were present. The meeting was very instructive and helpful. Warren county reported that out of 1027 members listed there were 27 cancellations leaving 1000 members. All but 21 of the 1000 have paid up showing collections of 97.9% for 1923." - V. Vaniman.

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The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

October 10, 1923

No. 41

Storing Apples for Winter Use

"Apples may be successfully stored for winter use on any farm by observing a few simple rules. Fruit should be harvested at the correct stage of maturity. As a general rule fruit is mature when the seeds are brown, a slight spring evident when fruit is pressed between the two hands, and the skin of good

color for the variety. The maturity of red varieties is easily determined; that of self colored or green varieties often somewhat difficult. Most green varieties exhibit a slight yellow color when mature, which together with the color of the seeds may be taken as the signal for harvest. The ease with which the stem separates from the spur is also a guide to maturity. Over maturity means poor keeping quality in common storage and there seems to be an unfortunate tendency to allow fruit to hang on the trees too long.

Only perfect fruit should be stored. Choose specimens free of insect punctures, hail bruises, and blemishes by disease. All these tend to induce rotting. Even perfect fruit will fail to keep if handled carelessly. Apples should be picked in such a way that the stem is not torn from the fruit, handled carefully to avoid bruising, and hurried from the tree to storage as quickly as possible. The old practice of placing the fruit in piles under a tree over night is a poor one and is a drawback instead of an aid to long keeping.

The storage should be provided with ventilation and some means of keeping up the moisture content of the air. Good ventilation makes it possible to take advantage of the cool atmosphere at night and by closing vents during the daytime maintain a fairly equal temperature. Apples keep best at a temperature of 31° F. but since it is impossible to obtain this under home storage conditions we should try to keep the fruit as cool as possible without freezing. A floor which can be kept moist will largely prevent shriveling and if the floor or walls of the storage are not moist naturally some moisture should be introduced if possible.

One of the most successful farm storages in the middle west is constructed on a hillside with a dirt floor over which loose planks are laid. On these planks the fruit is stacked in slat crates holding one bushel each. By opening and closing ventilators to conform with the outside temperature Jonathan, Grimes, and apples of similar season may be kept till Christmas and Black Twig, Winesap and Willow till April." - W. S. Brock.

Time to Reorganize - "October should be the month in which we take an inventory of our club work and make plans for the future. Our annual report is going to show a total enrollment of nearly 6000 club members for 1923. If all counties make the proportionate increase in enrollments in 1924 as has been made in 1923 we should have 10,000 club members in Illinois. Members who fed pure bred gilts this year should be encouraged to breed their gilts and enroll in the sow and litter club for 1924. There is no better time to organize baby beef and dairy heifer clubs than in the fall of the year. Baby beeves for 1924 should all go on feed on or near December 1. Those counties which major in poultry clubs should enroll all who were in the chick project in the flock management club."

Starting Cattle on Feed - "Cattle go on full feed of corn more cheaply and safely if the change is made gradually. The animal's digestive system requires some time to become accustomed to utilizing large amounts of grain. A sudden change to full feeding of corn results in disturbed digestion, if not sickness, and a waste of corn. Cattle which have never had a taste of corn also require considerable time before all of them learn to eat it. One to two pounds of corn per head is enough to give at each feeding twice a day at first. Even then the feeder needs to be sure that all steers come up and eat at once. Otherwise the greedy ones may get too much and become foundered or suffer from deranged digestion.

From three to five weeks are usually allowed by successful feeders in bringing cattle up to all the corn they will eat. The amount is increased a little every day or two after all are eating well. They should clean up all that has been given before any of the cattle turn away from it. Then oats are low priced compared with corn, as they are this fall, they may be fed advantageously as part of the ration especially during the first few weeks. Of course it is necessary to give the cattle all the good clover, alfalfa or other legume hay that they will eat unless they have the best of pasture. That contributes to faster and cheaper gains.

The practice of turning steers and hogs together in standing corn is increasing in favor because labor is scarce. When the steers are on full feed of snapped new corn, they are turned into the cornfield immediately after being salted and filled with hay or grass and water. They waste some corn at first. There should be one or two young hogs for each steer, and they will clean up the shelled corn and partly eaten ears. Good grass or clover hay on the side is a help.

Cattle and hogs together can harvest lots of corn during the next two months. They save the work of husking, cribbing and feeding and of hauling manure. Gains seem to be fully as large as from the same acreage husked and fed. Judging by the large succeeding crops, the manure is more evenly and completely spread upon the field than it is ever possible to do when corn is fed in troughs or self feeders in a dry lot." - E. T. Robbins.

Consistent Efforts Bring High Rewards in Club Work - "There is no question about the week spent at War Eagle Camp at the Sioux City Interstate Fair being the biggest and happiest week in the lives of the boys and girls that were chosen to represent Illinois in the demonstration team work. It was a splendid reward for the hard work it has taken to bring their clubs up to championship class. The members of our teams received the stimulus of meeting the champion club members of eleven states from Montana to Ohio. There were 2000 of the finest live stock in the country to be inspected and crop exhibits from many states. Great value came from watching the demonstrations of the other states. Every minute seemed full of new ideas that could be brought back to strengthen the club work back home. One frequently heard the remark "When I get home, I am going to do" - this or that which had been picked up during the week.

The Bureau county team took sixth place for Illinois in the judging contest which was won by Nebraska. The demonstrations were all good but Illinois did not place. Minnesota's team of three boys won with a dairy demonstration. The girls demonstration contest was won by Iowa.

Orlan Swartz of Knoxville, Illinois, a member of the boys' demonstration team was elected president of War Eagle Camp and will get to go to Sioux City again next fall. This is one of the highest honors to be won by a club member at Sioux City.

The inspiration received by these boys and girls as they saw the spirit of cooperation between the eleven states, the fair board, and the U. S. Department of Agriculture, has given them a vision, the extent of which cannot be measured. This vision will be shaping the ideals and growth of the communities in which these young men and women move in the years to come." - E. I. Filchard.

Reorganization - "The usual agony was gone thru consisting in night meetings, the sending out of literature from the office, a special edition of the local paper, etc. However, one bright spot pervades the reorganization campaign and this consisted in a purely dirt farmer banquet composed of farmer solicitors from different parts of the county. About 50 invitations were issued and 33 responded. The banquet consisted in the usual eats and smokes and a talk by the campaign manager, Mr. Shields. The farm bureau president, Mr. Baumberger, presided over the meeting and later he called on Mr. Tarble to act as toast master. About one dozen short after dinner talks, some of them very original in nature, made the evening very enjoyable and crystallized sentiment among the boosters that the farm bureau should not be allowed to go into discard. Each man present stood on his feet and 'yes, yessed' when asked if they would drive a state solicitor for at least one day. This meeting, we believe, will be of great value during the clean up work which is to start October 22." - Charles Tarble, Bond County.

Neighborhood Auto Tours - "We tried holding a neighborhood auto field trip in one township and must admit that we got more real work done in that half day than one could do in a week single handed. This has a lot of promise in caring for the ever accumulating number of general farm visits. We are thinking of substituting this type of tours for the big county tours. It is better to work with five in a group for two hours than spend a hour with each man alone. However, farm visits and individual service cannot be eliminated." - F. E. Fuller, Marshal-Putnam County.

Developing Local Interest in Fair - "The Wabash county farm bureau cooperating with the local fair board has demonstrated that a carnival troop is not essential to the success of a county fair. The farm produce exhibit put on thru the leadership of the farm bureau this year, attracted large crowds each day of the fair. A very large tent was completely filled with fruit and farm produce.

To get more people interested in exhibiting, \$40 in premiums was offered for the best school exhibit of farm produce. Four graded town schools and 14 one-room country schools competed in this class. A number of people who have visited different fairs in Central and Southern Illinois stated that the arrangement and display of farm produce was the best they had seen at any fair on the circuit.

The farm bureau has endeavored to get farmers to exhibit at their county fair not with the idea of making money out of the premiums that may be won, but with the idea of helping Wabash county and to let people from other counties know that Wabash county can produce crops second to none in the state." - J. C. Spitler.

A Good Finish in Club Work - "All of the club records for projects except corn and poultry were closed during the month of September and we had our achievement day program on Saturday, October 6. We had shows for the pig club projects and the girls clothing clubs at the El Paso fair and our annual calf club show on achievement day. The different clubs were represented at the State Fair with clothing club, pig club and demonstration exhibits. It is very interesting to note that all members received some prize in each class in which they exhibited except one class in the clothing club. Also our demonstration team on the Illinois Swine Management Plan was awarded first premium and will receive a trip to the International Live Stock Exposition without expense." - Paul E. Johnston, Woodford County.

"The calf and pig club show was an important feature of the fair; 67 boys and girls showed 78 baby beeves and 60 showed barrows or gilts. The calves were sold at a sale held on Friday of fair week, and brought an average price of \$12.14 per hundred weight. Twenty-seven barrows were shipped to Chicago the Monday following the fair, and brought \$8.60, 5¢ below the top for that date." - J. W. Whisenand, Henry County.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

October 17, 1923

No. 42

The Feeding of Soft Corn

"The most satisfactory method of disposition of soft corn is to feed it to live stock. The best way to feed it to live stock is in the form of corn silage. Silage from soft corn does not greatly differ from ordinary corn silage and can be kept indefinitely. If there

is so much soft corn that the available silos will not hold it, the ears may be jerked, put thru the ensilage cutter and ensiled without the stalks. Experiments at the University show that immature corn when ensiled in this manner has a high feeding value, and of course will keep indefinitely. The husks are an aid in packing the silage tightly and provide about the proper amount of roughage for a steer on full feed. Ear corn silage has a high acid content and may attack the walls of a concrete silo.

However, the great majority of farmers do not have silos and must feed the corn as it comes from the field. The questions then arise as to whether or not soft corn is a safe feed for all classes of live stock and as to its value compared with sound corn.

In discussing either of these questions, we must admit that the experimental evidence is quite limited and any discussion may have to be modified after further experimentation. It seems safe to say that soft corn, if not moldy or sour, is a relatively safe feed for cattle and hogs. It is, however, quite laxative due to its high water content. Consequently unusual care must be exercised in getting the animals upon full feed or it may cause severe scouring. Frozen corn especially is apt to cause digestive disturbances. Due to its high water content, soft corn is quite apt to mold, sour or ferment, especially in warm weather. Molded or fermented soft corn cannot be regarded as absolutely safe but usually cattle and to a less degree, hogs can handle it without disaster. Sheep men differ as to the advisability of using soft corn, but many of them do use it successfully. Sheep are not apt to eat much moldy or soured corn if they have plenty of wholesome feed. Since horses and mules are very susceptible to moldy corn, it is not advisable to feed soft corn to them.

In lieu of more definite information, it is customary to study the chemical composition of a feed as an indication of its nutritive value. Soft corn is higher in water content and consequently lower in the dry nutrients than mature corn. Mature corn usually contains from 10 to 20 percent of water while soft corn may contain from 25 to 65 percent of water depending upon the stage of maturity at which it was frost-ed. Usually, however, soft corn contains between 25 and 50 percent of moisture. Obviously the feeding value of soft corn is correspondingly lower than that of mature corn due to its lower content of dry substance. If the chemical composition of the dry substance of mature and soft corn are compared, it is found that there is practically no difference, which would lead one to the conclusion that pound for pound of dry substance the feeding values of soft and mature corn are the same. In other words the difference in feeding value between soft and mature corn is determined by the water content of the former. In an experiment at the Iowa Experiment Station (Iowa Bul. 75) medium soft corn (containing 35 percent water at the beginning of the test and decreasing to 16 percent water at the end of the test) was compared with

sound corn (containing 11 percent water) for fattening steers. The gains were practically the same while the steers fed soft corn actually required less dry substance per pound of gain. The results obtained by practical feeders, however, do not indicate that the dry substance of soft corn has so high a feeding value, particularly when the corn is very soft. The consensus of opinion among feeders seems to be that for wintering cattle and hogs, for cows in light milk, and for fattening steers and hogs in the early part of the feeding period, soft corn is nearly equal to mature corn pound for pound of dry substance. For finishing either steers or hogs, mature corn gives must better results.

In order to secure the best results with soft corn, it must be fed with more care than mature corn. We have already mentioned that a longer time is necessary to get stock on a full feed of soft corn. Since the water content is considerably higher, a larger amount of soft corn must be fed. Thus frequent feeding, three or four times per day, or self feeding is advised. Also it should be properly supplemented with high protein feeds.

Frozen corn should be thawed out in a warm place or cooked before feeding. If possible soft corn should be used up before extremely cold weather. Soft corn may be hogged down advantageously and some sheep feeders advocate sheeping it down." - Sleeter Bull, Animal Husbandry Department, U. of I.

Investing in Purebred Gilts - "Purebred gilts are selling at bargain prices this fall. One can buy them for a trifle more than the market value of grade hogs. There is the best opportunity ever presented to replace common sows with purebreds. The grade gilts can be fattened and shipped to market and the proceeds will buy nearly as many good purebred females. In some cases a drove of old sows can be sold and the money received will buy more than the same number of registered gilts.

If farmers generally appreciated the genuine value of purebred hogs such bargains would not be possible. Most of the top litters are purebreds and all the others are high grades. The hogs which secure top market prices are usually purebred, or nearly so. Purebreds are credited with being fully 40 percent more efficient money-makers than grades and scrubs, according to reports sent to the United States Department of Agriculture by hundreds of stockmen. In face of these facts it is astounding to note any indifference to purebreds on the part of farmers.

Even tho one does not plan to engage in pedigree breeding, an investment in purebred females at present prices will pay handsomely. In the last three years many hard-headed experienced pork producers have bought purebred sows and gilts, and turned them out to raise pigs for the stockyards market. They merely regarded the pedigrees as a guarantee of inherited excellence, and made no further use of the registry certificates. Gilts were bought at \$10 to \$25 per head more than the price of grades, and handled in this way.

The hog business is passing thru a period of depression. A revival of business and higher prices has always followed in a few years. A farmer can establish a fine foundation herd now at moderate cost and be ready to reap profits by the sale of the offspring in years to come. This is a much wiser policy than buying purebreds at the crest of a boom and then in disgust shipping the offspring onto the stockyards market in a time of depression such as the present." - E. T. Robbins.

Poultry Specialist Appointed - "Mr. G. W. McIlroy has been appointed Instructor in Poultry Husbandry and Extension Specialist in Poultry Husbandry at the University of Illinois, and will begin his new duties at once. He is a graduate of the University of Wisconsin and since graduation has been engaged in resident instruction and extension work at the North Dakota Agricultural College. He comes here very well recommended by those who knew him as a student and those by whom he has since been employed. This appointment will make it possible for the University to come much nearer meeting the demands for field work in poultry than has been true at any time in the past." - L. E. Card.

Cider Vinegar - "At this season of the year many farmers wish to manufacture cider vinegar from their surplus apple cider. In selecting apples for cider use only sound fruit. Do not use green apples, aphid apples, bitter rot apples, or moldy apples for either cider or vinegar. All dirty or muddy apples should be washed. Do not wash all the apples unless you are in a position to obtain a pure culture of yeast. The cider press and cloths should be washed after each pressing.

Cider for manufacture of vinegar should not be run from the press into old vinegar barrels, unless the old barrels are first thoroly washed out with a dilute solution of formaldehyde (1 pint 40% solution of formaldehyde to 500 pints of water) and thoroly rinsed with water. It is very important that the acetic acid bacteria or 'mother of vinegar' be kept away from the sweet cider until after the alcoholic fermentation is complete. There are two distinct fermentations in the manufacture of vinegar, first the formation of alcohol from the sugar, giving us 'hard cider'. This first fermentation requires from two to six months, depending upon the temperature and the strain of wild yeasts in the juice. The cider should be drawn off into clean barrels filled about two-thirds full and placed in a cellar or storage room which can be kept at a temperature between 45° and 65° F. cheese cloth or screen wire 24 mesh to the inch should be tacked over the bungs to exclude vinegar flies.

When the alcoholic fermentation is completed add a gallon of good vinegar containing 'mother of vinegar' to each barrel. This will hasten the change from alcohol to acetic acid. The vinegar mother should not be added until the hard cider ceases to give off gas bubbles. The time required for the acetic acid fermentation will vary from nine to twelve months or longer.

By taking the above mentioned precautions there is no reason why every farmer cannot utilize his surplus cider in the manufacture of vinegar. When sold in Illinois the vinegar must contain at least 4% acetic acid. Every container

must be labeled as follows:

CIDER VINEGAR	
Name and address of manufacturer	
Volume of container.	

If the vinegar is diluted it must be stated on the label." - A. C. Vogele, Hort.

Illinois Team Gain Great Victory - "The Dairy Judging Team from Whiteside county was successful in winning first place in a contest among twenty state champion teams at the National Dairy Exposition held last week in Syracuse, New York. Donald Williams, Harold Gaulrapp, and Elwyn Folkers, the members of the team, now have the privilege of representing the United States at the English Royal Show in England. A team from Whiteside county won first place in the Dairy Demonstration Contest at the National Dairy Exposition in 1922. The farm bureau in Whiteside county should be commended for their foresight in making a place in their program for club work. More happiness and prosperity will come to the farms of Whiteside county as these young people gradually go into business for themselves." - E. I. Pilchard.

Select Seed Wheat With Care - "A great number of farmers have found that on examining their seed wheat that it was pretty badly damaged with weevil. This is especially true with soft wheat. In a number of cases it was necessary to take off the top six inches of wheat. We have recommended to all of these men that they secure good seed wheat that is not damaged by weevil, if possible to do so. In some cases where it was late before they noticed it they have not been able to get other seed so have been forced to sow a little extra in order to account for the weevil." - G. H. Husted, Scott County.

Southern Illinois in Ton Litter Finish - "The first ton litter entry to finish weighed 2681 pounds. This was a litter of eleven sired by a purebred Duroc Jersey boar. This litter was fed on corn, middlings or whole wheat and skim milk." - H. A. deWerff, Franklin County.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the transparency and accountability of the organization. This section also outlines the various methods used to collect and analyze data, ensuring that the information is reliable and up-to-date.

2. The second part of the document focuses on the financial aspects of the organization. It provides a detailed breakdown of the budget, including income, expenses, and the resulting surplus or deficit. This section also discusses the various financial risks and how they are managed to ensure the long-term stability of the organization.

3. The third part of the document addresses the operational aspects of the organization. It describes the various departments and their functions, as well as the processes used to manage the organization's day-to-day activities. This section also discusses the various challenges faced by the organization and how they are being addressed.

4. The fourth part of the document discusses the future of the organization. It outlines the various goals and objectives for the coming year, as well as the strategies used to achieve them. This section also discusses the various risks and challenges that the organization may face in the future and how they are being managed.

5. The fifth part of the document discusses the various stakeholders of the organization. It identifies the various groups and individuals who have an interest in the organization's success, as well as the ways in which the organization is working to engage and support them. This section also discusses the various challenges faced by the organization in this regard and how they are being addressed.

6. The sixth part of the document discusses the various legal and regulatory requirements that the organization must comply with. It outlines the various laws and regulations that apply to the organization, as well as the ways in which the organization is ensuring compliance. This section also discusses the various challenges faced by the organization in this regard and how they are being addressed.

7. The seventh part of the document discusses the various ethical considerations that the organization must take into account. It outlines the various ethical principles and standards that the organization is committed to, as well as the ways in which the organization is ensuring that these principles and standards are being followed. This section also discusses the various challenges faced by the organization in this regard and how they are being addressed.

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The Extension Messenger

Timely Notes for Farm Advisers and others from the
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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

October 24, 1923

No. 43

Where Farmers Meet



Farmers Week.

January 21 to 26, 1924

*College of Agriculture
University of Illinois*

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Pushing Purebred Gilt Sales - "Selling purebred hogs this fall involves more push and persistence than usual. Farmers do not flock to the bargain counter of the swine breeder but whenever prices are already high they bid against each other to push them still higher. The breeder must 'put on his selling clothes' this fall.

There is an immense new field for the sale of purebred gilts. The majority of farmers do not have them. They must be convinced of their superiority before they will buy. Who can do this missionary work better than the breeder himself? Can he follow the example of the salesmen of insurance or automobiles or tractors or stallions? These men decide that you should buy their wares and then they hunt you up, interest you, convince you and persuade you to spend your money. Most sales of anything to new purchasers are made in this way.

Breeders have depended too largely upon the chance purchaser and the auction sale. How long would automobiles maintain their present prices if they were bunched in numbers and sold without reserve at auction? How much oil stock could a salesman sell without personally talking each prospective purchaser up to the point of 'investing'? And yet the surplus stock which the breeder offers is a greater wealth producer than the auto and a safer, surer investment than oil stock.

With a clear conscience and honest pride one can urge his neighbor to sell off his grade sows and buy purebreds. The average purebred is a better market type and makes faster, cheaper gains than the average grade. And the grade hog, by reason of an infusion of pure blood is distinctly superior to the scrub. The argument is all on the side of the pedigree breeder. Let him use it to the benefit of his neighbor and of himself.

Special inducements are offered by various breeders this fall. Some are accepting common market hogs in trade for purebred gilts. Some breeders are offering gilts by weight to neighbors at the top Chicago price for hogs that day, and making a separate charge for the registry certificate if it is desired. With this system the price of the certificate should be in proportion to the popularity of the pedigree. As an added inducement the purchaser might be given a six month's option on the registry certificate. The initial investment would be smaller and the merit of sow and pigs might assist in persuasion.

One's neighbors are the best customers a breeder can have. If he maintains his present lead in the business these new breeders will come to him later on for better and better sires and the choice of his females." - E. T. Robbins.

Progress Report of Swine Type Experiment - "The intermediate and rangy types of pigs are making the best records of the five types of Poland Chinas in the swine experiment which is being conducted at the University of Illinois this year. These pigs are medium to moderately rangy in build, and they have good thickness of back and possess good depth of body as well as fair length of leg.

Pigs of a very chuffy type similar in breeding and type to the old medium-type Poland Chinas are fat, but are making the slowest and most expensive gains. Chuffy pigs of large-type breeding are making good feeding records and should produce splendid carcasses. The pigs which are extremely rangy, are making a good growth but they are not fattening at desirable market weights.

Last year, pigs of an intermediate type not only made the most rapid and economical gains but also dressed the best carcasses. This year, the rangy pigs are feeding as well as the intermediate pigs up to date, but most of them do not carry the fat necessary for killing at weights of 200 to 225 pounds. Rangy pigs that are running to self-feeders are fatter than those being hand-fed. Breeders and feeders interested in this test should see these pigs during the next month as they are being slaughtered as fast as they reach required weights." - J. B. Rice.

The Relation of Legumes to Phosphorus - "The chief value commonly attributed to the growing of legumes has been their ability, when inoculated and supplied with sufficient limestone, together nitrogen from the air. Because of this power, farmers have grown legumes to replenish their soils with nitrogen and organic matter and to furnish their live stock with needed proteins. Investigations during recent years at various Experiment Stations, indicate that the growing of legumes may also be attended with other benefits. Among these may be mentioned their greater use of phosphorus and the ease with which they are able to get it from sources more or less insoluble.

Roughly speaking, legumes contain more than twice as much phosphorus as the non-legumes commonly grown upon the farm. Culture experiments have shown that the legumes can get this phosphorus from the more or less insoluble calcium-phosphates, as rock phosphate, much more readily than the common farm crops can get the phosphorus they need from similar sources. This power appears to be more or less closely related to the calcium needs of the plants. Since rock phosphate contains calcium as well as phosphorus it may supply both elements to growing plants. When the phosphate becomes soluble, plants having high calcium requirements may utilize equally both the calcium and phosphorus. Plants of low calcium requirements, having less need for the calcium will utilize these elements unequally and as a result the unused calcium will tend to maintain its combination with the phosphorus and hence cause it to be less useful to such plants. As a class the legumes are high calcium crops, while the common farm crops are low calcium crops.

Since phosphorus, an essential element in plant nutrition, is deficient in many soils and is widely used in fertilizer practice, the relationship described above may prove to be an additional incentive for the growing of legumes. Whether it is a relationship having practical agricultural value or not, will depend, no doubt, upon the use made of the legumes. If they are removed entirely from the land, the growing of them may contribute to a more or less rapid impoverishment of soil phosphorus. If they are used for the improvement of the soil, they may play an important part in making the native mineral phosphates or those applied more highly available to other crops less able to utilize them. More definite information is needed upon the practical aspects of this relationship and especially upon the relative feeding powers of the surface and subsoil roots. There seems to be no doubt, however, that in more than one sense legumes may be regarded as 'real housekeepers' of the soil household." - F. C. Bauer.

Draining the Wet Spots - "Wet spots are often found in the field pasture, or farmstead due to the fact that a pocket or depression exists from which there is no natural outlet for surface water. If water stands in the depression it is called a pond; if not it is called a pot hole or pocket. The pond is an undesirable obstacle and besides being unproductive it often presents a problem in sanitation. The pot hole is also undesirable because it is often too wet to produce good crops and in wet weather it is usually in a state of mire. In most cases a convenient outlet for tile drainage can be obtained, however, in some instances a deep cut or long line of tile would make the cost of drainage prohibitive. It is a good idea to have a surveyor take some preliminary elevations to determine the best location of the outlet and the approximate length and depth of cut. This will give a fair idea of the cost of drainage and, if it is thought advisable to start construction, the surveyor can then be employed to stake out the line and take the necessary elevations to figure the cuts." - P. C. Kelleher.

Club Work Attracts Attention - "The boys and girls club work was the biggest attraction at the fair. Fifty-one baby beef calves, three Holstein cows, eight dairy heifers and nine sow and litter entries were shown. The baby beeves were sold for an average of around 11½¢ per pound. The champion brought 20¢ per pound. L. O. Wise, Whiteside County.

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Vol. VI

October 31, 1923

No. 44

University Imports Choice Percheron Sire

"The imported three-year-old colt Urometre (145695) has been installed at the Head of the band of Percheron mares at the University of Illinois. He was the choice of the French breeding establishments last summer. Professor J.

L. Edmonds, in charge of horse husbandry at the University, spent several weeks in the Perche district where he made a thoro search for a colt of real promise. He sought out the sires and dams of likely stallions and finally selected the big dark gray Urometre as the nearest approach to his ideal of genuine Percheron merit, character and ancestry. He was determined to secure a first class horse to succeed Fernand and Fier-a-Bras which have sired a lot of wonderful fillies on the University Farm.

Urometre stands 16 hands, 3 inches high and he weighed 2035 pounds upon arrival here in moderate flesh. As these figures suggest, he is of rugged build. He is a horse of marvelous character, symmetry and balance. His nearest approach to a fault is a tremendous depth of chest which suggests less height than he really possesses. He commands respect for a real sire's head, strong but clean-cut, and a calm but responsive interest in all around him. His underpinning bears the closest scrutiny. His exceedingly heavy bone, set correctly and tempered like the keenest steel suggests an endless durability commensurate with his all around stamp of vitality. And such feet, of ample size and typical Percheron type, are the pride of any horseman. He carries them forward straightly and with hocks very close, a marvelous performance for a horse so thickly muscled.

Professor Edmonds sought a real draft horse, powerful, active, durable and finely finished—and he found him. August Tacheau of LaFerte Bernard plainly considered him one of the best colts he has raised. Best of all, perhaps, the colt's merit is consistently inherited from his popular and sound old sire Kroquet (91851) thirteen years old, and his sweet dependable and beautifully perserved old dam Navigation (113958) ten years old. Professor Edmonds has undertaken to build up a band of real farm horses on the University Farm and this new sire with such superior backing should advance the breeding plan already so well established." - E. T. Robbins.

Agricultural Open House - "The Agricultural Club of the College of Agriculture, cooperating with the various departmental clubs, is preparing to have the Annual Agricultural Open House on November 24th. Each department will have exhibits depicting the character and scope of their particular field.

Special attention is called to the "Little International" which is to be held at the same time as the Agricultural Open House. This is given under the direct supervision of the Hoof and Horn Club. There will be shown representative animals from the various breeds of the University herds, many of which are being fitted for the International and new individuals recently purchased by the University. An exhibit showing one animal and a representative carcass of each group in the "Type Experiment with Swine" will offer to many a special attraction. There will also be a meat exhibit of the various cuts of pork, beef and mutton. A cordial invitation is extended to all.



Pasture Best Summer Roughage For Steers - "The steer feeding experiment conducted by the Illinois Experiment Station during the past summer was terminated September 29, and the cattle sold on the Chicago Market the following week. Due to the sharp decline suffered by all fat cattle except those of strictly prime grade since the last week of August, none of the four lots of the experiment returned a profit from the summers' feeding. However, the losses were considerably larger in the case of the dry lot cattle than of those fed on pasture, in spite of the fact that the cattle fed in the dry lots made noticeably larger gains than those that were grazed.

Blue grass pasture proved superior to sweet clover pasture in that it produced faster gains on the steers, a larger amount of pork from the hogs following the cattle, and a higher degree of finish on the part of the cattle as evidenced by a higher selling price per hundredweight. While sweet clover pasture proved to be a satisfactory roughage during mid-summer, it was noticeably washy and laxative during the month of May and the forepart of June. Moreover, it became somewhat unpalatable after the middle of August due to the ripening of its seeds and the subsequent drying up of the leaves and branches.

In making a comparison between the cattle fed on pasture and those fed in the dry lots, it should be kept in mind that considerable more labor was expended in caring for the dry lot cattle, and also that all of the manure produced by the pastured steers was spread by the cattle themselves with little or no loss in fertility, while the little that can be salvaged in the dry lots must be loaded in spreaders and hauled to the field.

A brief summary of the experiment follows:

	<u>Fed on Pasture</u>		<u>Fed in Dry Lot</u>	
	Lot I	Lot II	Lot III	Lot IV
Three year old steers fed 140 days	Blue Grass Pasture	Sweet Clover Pasture	Alfalfa Hay	Corn Silage
Av. daily gain (lbs.)	2.00	1.94	2.12	2.56
Av. daily ration				
Shelled corn	19.84	19.86	19.67	21.10
Cottonseed meal	-	-	-	2.64
Corn silage	-	-	-	21.34
Alfalfa hay	-	-	8.71	-
Cost of gain per cwt.	\$15.96	\$16.77	\$16.33	\$16.37
Pork per steer	78.5 lb.	62.5 lb.	46.0 lb.	66.5 lb.
Selling price of cattle in Chicago	\$10.50	\$10.25	\$10.40	\$10.40
Necessary selling price without pork	\$11.23	\$11.18	\$11.44	\$11.72
Necessary selling price including pork	\$10.78	\$10.81	\$11.13	\$11.35
Loss per steer without pork	\$ 9.15	\$11.61	\$13.15	\$17.36
Loss per steer including pork	3.46	7.08	9.81	12.54

Feed Prices:

Corn .80¢; Alfalfa hay \$15 a ton; Cottonseed meal \$50 a ton; Silage \$5 a ton; Pasture \$10 an acre per season." - R. R. Snapp, U. of I.

The Farmer's Financial Situation - "The net farm income on the same farms for different years serves as perhaps the best means of showing the financial status of farmers. The average net farm income on 99 farms in Woodford county, Ill. was \$8.98 per acre in 1922. In Tazewell county, adjoining Woodford county, the average net income on fifty farms in 1915 was \$15.35 per acre and in Woodford county in 1916 on forty-eight farms it was \$18.44. In 1916 the farm income was increased by the rise in prices due to the world war so that the figure for 1916, more than that for 1915, showed the farmer's income to be above normal. On this basis we are justified in saying that in 1922 the farmer's net income in Central Illinois was probably only 50 to 60% of the 1915 and 1916 net income.

It is true that farm prices in 1922 were higher than in 1913 (a year frequently taken as the basis of comparing changes in price levels) but the farmer's operating expenses had increased out of proportion to the increases in selling price of farm products. For example, for the month of August 1922 the price of farm products was determined to be 31% higher than in 1913, while the prices of over three hundred commodities in all lines of industry, which include the articles the farmer must use in the operation of his farm, averaged 55% higher than in 1913. This comparison helps explain the fact why many farmers have been having financial difficulties and have accumulated debts during the more unfavorable years of 1920 and 1921 when farming was generally carried at a loss throughout the cornbelt. At the present time agricultural prices are 39% higher than in 1913. It is probable that farm earnings will be a little higher this year than for 1922.

In conclusion it may be said that the income of the farmer who owns a good farm enables him to enjoy a good standard of living if he uses his income for that purpose, but the man who has heavy financial obligations has his purchasing ability limited to the barest essentials. There are indications that many farmers have been liquidating their debts, but there are still farmers who are being forced into foreclosure because of inability to meet their obligations contracted during the more prosperous period or during the period of extremely unfavorable agricultural conditions." - H. C. M. Case.

New Home Economics Handbook - "The Home Economics Extension Service has just published a loose leaf handbook with different sections devoted to Clothing, Home Furnishings, Home Management, Foods, Health and Recreation, in addition to a section on Office Organization and Management.

The book was intended primarily to serve as a handy book of reference for home advisers but is of equal interest to teachers and home makers. Each section contains tables, principles, and the high points of subject matter in the different fields of work.

The book will be sent subject to approval to anyone desiring a copy - 298 pages complete with leather cover \$5.50, loose leaves without cover \$3.50." - Kathryn Van Aken, State Leader.

Giving Club Work Support - "Our boys and girls made a splendid exhibit at the recent county fair. About 150 members contested for the \$700 in premiums offered by the county breeders and the fair association. The animals shown by these young folks were "top notchers", a number of them winning the blue and purple ribbons in the open classes. The total value of the live stock shown by club members was approximately \$5000.

An added feature was a live stock judging contest open to all club workers in the county. The local Kiwanis Club and a prominent breeder awarded \$85 in trophies to the winners. About 40 boys entered the contest. We plan to make this instructive work an annual event at our fair." - C. H. Belting, Mercer County.

Thirty more days of work - then annual reports.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the transparency and accountability of the organization. This section also outlines the various methods used to collect and analyze data, ensuring that the information is reliable and up-to-date.

2. The second part of the document focuses on the financial aspects of the organization. It provides a detailed breakdown of the budget, including income, expenses, and the resulting surplus or deficit. This section also discusses the various financial risks and the strategies used to mitigate them, ensuring the financial stability of the organization.

3. The third part of the document addresses the operational aspects of the organization. It describes the various departments and their functions, as well as the processes used to manage the organization's resources. This section also discusses the various challenges faced by the organization and the strategies used to overcome them, ensuring the efficient and effective operation of the organization.

4. The fourth part of the document discusses the future of the organization. It outlines the various goals and objectives for the coming year, as well as the strategies used to achieve them. This section also discusses the various risks and challenges that the organization may face in the future and the strategies used to mitigate them, ensuring the long-term success of the organization.

5. The fifth part of the document discusses the various stakeholders of the organization. It describes the various groups and individuals who have an interest in the organization's success, as well as the strategies used to engage them. This section also discusses the various challenges faced by the organization in this regard and the strategies used to overcome them, ensuring the satisfaction and support of all stakeholders.

6. The sixth part of the document discusses the various legal and regulatory aspects of the organization. It describes the various laws and regulations that the organization must comply with, as well as the strategies used to ensure compliance. This section also discusses the various challenges faced by the organization in this regard and the strategies used to overcome them, ensuring the legal and regulatory compliance of the organization.

7. The seventh part of the document discusses the various technological aspects of the organization. It describes the various technologies used by the organization, as well as the strategies used to manage them. This section also discusses the various challenges faced by the organization in this regard and the strategies used to overcome them, ensuring the effective use of technology by the organization.

8. The eighth part of the document discusses the various human resources aspects of the organization. It describes the various human resources used by the organization, as well as the strategies used to manage them. This section also discusses the various challenges faced by the organization in this regard and the strategies used to overcome them, ensuring the effective use of human resources by the organization.

9. The ninth part of the document discusses the various environmental aspects of the organization. It describes the various environmental factors that the organization must consider, as well as the strategies used to manage them. This section also discusses the various challenges faced by the organization in this regard and the strategies used to overcome them, ensuring the environmental sustainability of the organization.

10. The tenth part of the document discusses the various social aspects of the organization. It describes the various social factors that the organization must consider, as well as the strategies used to manage them. This section also discusses the various challenges faced by the organization in this regard and the strategies used to overcome them, ensuring the social responsibility of the organization.

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

November 7, 1923

No. 45

Measuring the Value of Community Organization

"Extension workers have long conceded the value of definitely organized community work. Owing to the lack of standards for measuring the results of extension work concrete data as to the increase value of organized work over unorganized work has been difficult to secure. The following

study of 12 Pennsylvania counties is taken from Director McDowell's annual report for 1922:

County Number	Communities in county			Leaders per community		Contacts per community	
	Total	Organized	Unorganized	Organized	Unorganized	Organized	Unorganized
1	21	5	16	4.6	2.0	92	49
2	15	6	9	2.0	1.0	104	64
3	13	5	8	1.2	.5	61	26
4	19	7	12	2.5	1.0	43	25
5	9	4	5	4.5	1.4	130	71
6	12	9	3	3.6	2.0	80	54
7	17	9	8	3.0	1.0	49	27
8	16	12	4	1.6	1.2	57	28
9	12	8	4	2.0	1.0	94	61
10	18	11	7	2.0	.4	50	25
11	17	5	12	3.0	1.3	62	53
12	15	10	5	2.5	.6	79	22
Average	15.3	7.5	7.8	2.7	1.1	75	42

This comparison has been made possible by the development in Pennsylvania of a measure of extension results called "farm contacts". The term may be defined as an individual farmer led to adopt an improved practice as a result of extension work. The State supervisors determine the total number of farm contacts in each Pennsylvania county each year by a detailed analysis of the records in the county extension offices. It will be noted that 80 percent more farm contacts were made in the organized than in the unorganized communities." - M. C. Wilson, Extension Service, Washington, D. C.

Results of a Community Meeting - "The spirit of neighborliness best finds expression and opportunity for growth when neighbors come together. A meeting was held at Covell in McLean county last month thru the leadership of Harry Dixon, a member of the Board of Governors of the McLean County Farm Bureau, which resulted in a demand from those present for regular community meetings. There were about 150 present. The ladies served a real supper with an abundance of ice cream and cake. The program consisted of recitations, music, brief remarks by local people and talks by the farm adviser and two outside speakers. Roosevelt said, "This country will not be a good place for any of us to live in unless we make it a good place for all of us to live in." - V. Vaniman.

Utility Corn at "The International" - "The Utility Type of corn, as recognized in Illinois for the past three years, has annually been shown by many Illinois exhibitors at "The International", but is this year promised recognition at the Show for the first time. Illinois has taken the lead in insisting that more and more attention should be given in the judging of corn to those characters which seem to be correlated with productivity. In other words, show corn, if it deserves a premium, should be superior seed corn.

At the April meeting of the representatives of the several states, called by the management of the Grain and Hay Show, to make plans for the 1923 "International", a change was made in the zoning system. A line was drawn from Chicago southward on the Illinois-Indiana line, making four sections out of what was formerly two. Thus, the western portion of Zones 3 and 4, in which Illinois falls, is now known as Zones 3 and 4 West. At this April meeting a committee was appointed from each of the several states concerned and from Canada, to agree upon types of corn which would be recognized as the accepted types and recommended as such to the Judges' Committee at "The International".

The points which should be especially emphasized in selecting a sample for "The International" are - lustre, freedom from excess starch, firm, heavy ears, and shanks which are free from discoloration. Care must be given uniformity, of course, as a poorly matched, irregular sample is never as favorably considered by a judge as a uniform one. Samples in Zone 3 West, which is that portion of Illinois lying north of a line drawn along the north edge of Hancock, McDonough, Fulton, Tazewell, McLean, Champaign and Vermilion counties, should be at least $9\frac{1}{2}$ inches long, while those from Zone 4 West, which is that portion of Illinois lying south of this line should be 10 inches or more in length. The number of rows is not specified, but as a rule will run 16 to 18 rows in Northern Illinois and 16 to 20 in central and southern.

Entries close November 10th. Illinois exhibitors are urged to make application for entries in plenty of time and to have their samples in Chicago not later than Monday, November 26th. In case an exhibitor wishes to bring his exhibit in person, he can do so up until Friday noon, November 30th, provided proper entries have been made in advance.

For additional general information or for additional premium lists or applications for entry, write the Illinois Crop Improvement Association, Urbana, Illinois, J. C. Hackleman, Secretary."

A Good Way to Start Club Work - "On the 24th, representative cattle feeders from eight of our townships met in Monmouth with E. I. Pilchard, Junior Club Specialist of the University, and discussed the matter of organizing baby beef clubs. The men were interested and voted to secure at least 5 enrollments in each township. Tompkins township is the first to report on enrollments." - A. A. Olsen, Warren County.

Cooperating With Farmers' Institutes - "Three days were given over to the Peoria county Farmers' Institute which was held in Princeville. I think we are justified in saying that this was one of the most successful institutes ever held in Peoria county during the last eight years. The work was all done by people of Princeville and community. They had an extremely good attendance at both day and night meetings. The vegetable and grain shows were very good. The school exhibits, canned fruit, bakery, and fancy work departments would have done credit to a county fair. They had a good hog and poultry show also. Two features of the institute were the parade of draft horses hitched to farm wagons on one day and the float parade made by country schools on another day." - W. E. Hedgcock, Peoria County.

Using Horticultural Committee - "The farm adviser met with the Horticultural Committee of the farm bureau and made arrangements for an apple show to be held in Galena the latter part of November or the early part of December depending upon when we can get a specialist from the University to do the judging." - V. J. Banter, Jo. Daviess County.

The above information was obtained from a review of the files of the Department of the Interior, Bureau of Land Management, and the Bureau of Reclamation, and is being furnished to you for your information.

The Legume Farmer - "The use of ground limestone has increased enormously within the past ten years and with this increased use of lime the legume farmer has come prominently to the foreground. This type of farmer grows as large an acreage of legumes as is practical, and often this allows him to grow some legumes each year on each acre of cultivated land. This method of farming is a distinct departure from the rapidly passing type of farming in which no legumes are grown.

There are various crop rotations in which legumes may be utilized for various purposes with apparent profit. Legumes in the rotation may be used entirely for soil improvement purposes, or they may be grown primarily for feed, with soil improvement as secondary importance.

These two motives for growing legumes call for a somewhat different rotation, or at least for a distinctly different method of handling the legumes in similar rotations. Various clovers, alfalfa, soybeans and cowpeas compose the main legume crops. These may be readily used in various rotations with the main grain crops of corn, wheat and oats.

The wheat, corn, oats, clover rotation, which happens to be more or less used at present, is well adapted to legume farming. In this rotation the wheat may have a seeding of sweet clover to be used for a fall hay crop, or pasture and finally turned under the following spring as green manure for the corn. The corn may have soybeans seeded in for pasture purposes. The oats may have a seeding of red, alsike, mammoth, or a mixture of clovers, which furnishes hay, seed or pasture the following year. This plan gives some legume on each field each season, and the rotation is desirable from the standpoint of soil improvement and the production of feed. This is only one rotation of the many which may be put into practice with the legume crop as the foundation. There may be worked out practical legume rotations similar to the above which may be suitable to various types of farming." - H. J. Snider.

Buy Good Cows - "While at the National Dairy Show this fall I was informed by the Dairy Extension man from Tennessee that cattle dealers from Illinois were active in the purchase of cattle from his state. He stated, "that when this fact first came to my attention, I was greatly concerned because we need all of the good dairy cows in Tennessee but when I saw the kind of cattle the buyers were picking up I told them to take as many of that kind out of Tennessee as they cared to."

Undoubtedly there are sections in Illinois that could use more good dairy cows. A good way to secure these cows is for the farmers to pool their orders and then send some one who knows cows, prices and conditions, to buy them. If such a practice were followed we would not get as many culls from other states as we are now getting." - C. S. Rhode.

Farmers Study Marketing Problem - "Some time has been spent during the month trying to help the broom corn producers in marketing their crop. Several meetings have been held by the broom corn men for the purpose of informing themselves on crop conditions and the general marketing situation and to secure sufficient amount of labor to harvest the crop. The meetings have been very helpful in this respect. As a result of these meetings there has been a growing interest in a broom corn marketing organization on a cooperative basis for the purpose of merchandising the crop. Considerable dependence is being placed by the growers on the farm advisers and farm bureaus for information and guidance." - Melvin Thomas, Coles County.

P. D. B. for Borers - "There has been distributed thru the farm bureau almost a ton of para-dichlorobenzene for the control of peach tree borer, which was about three-fourths of the total used in the county this year. On the average one pound will treat about 20 trees. This means that enough of this material has been distributed by the farm bureau to treat 40,000 trees." - F. J. Blackburn, Marion County.

1. The first of these is the fact that the Commission has not yet received any information from the Government of the United States regarding the activities of the Committee for the Liberation of the People of the South (CLPS) in the United States. This is a serious omission, as the Commission is required to report on the activities of all groups and individuals who are active in the United States and who are engaged in activities which are aimed at the overthrow of the Government of the United States.

1. The first of these is the fact that the evidence is not sufficient to establish that the defendant was involved in the conspiracy. The evidence is not sufficient to establish that the defendant was involved in the conspiracy.

1. The first of the three is the "General" or "Overall" view, which is a broad, high-level perspective of the entire system. It is the most important and the most difficult to develop, as it requires a deep understanding of the system's purpose and goals, and the ability to see the big picture. It is the foundation upon which the other two views are built.

1. The first of these is the fact that the Government has not been able to secure the necessary funds to carry out its policy of non-interference in the internal affairs of other countries. This is due to the fact that the Government has not been able to secure the necessary funds to carry out its policy of non-interference in the internal affairs of other countries.

The following is a list of the names of the persons who have been
 named in the above mentioned report, and who are now in the
 custody of the Federal Bureau of Investigation, at the
 New York City office, and who are being held for the purpose
 of being interviewed by the Special Agents of the Bureau.
 The names of the persons who are being held for the purpose
 of being interviewed by the Special Agents of the Bureau are
 as follows:

1. The first group of 100,000 was distributed in 1941 and 1942. The second group of 100,000 was distributed in 1943 and 1944. The third group of 100,000 was distributed in 1945 and 1946. The fourth group of 100,000 was distributed in 1947 and 1948. The fifth group of 100,000 was distributed in 1949 and 1950. The sixth group of 100,000 was distributed in 1951 and 1952. The seventh group of 100,000 was distributed in 1953 and 1954. The eighth group of 100,000 was distributed in 1955 and 1956. The ninth group of 100,000 was distributed in 1957 and 1958. The tenth group of 100,000 was distributed in 1959 and 1960. The eleventh group of 100,000 was distributed in 1961 and 1962. The twelfth group of 100,000 was distributed in 1963 and 1964. The thirteenth group of 100,000 was distributed in 1965 and 1966. The fourteenth group of 100,000 was distributed in 1967 and 1968. The fifteenth group of 100,000 was distributed in 1969 and 1970. The sixteenth group of 100,000 was distributed in 1971 and 1972. The seventeenth group of 100,000 was distributed in 1973 and 1974. The eighteenth group of 100,000 was distributed in 1975 and 1976. The nineteenth group of 100,000 was distributed in 1977 and 1978. The twentieth group of 100,000 was distributed in 1979 and 1980. The twenty-first group of 100,000 was distributed in 1981 and 1982. The twenty-second group of 100,000 was distributed in 1983 and 1984. The twenty-third group of 100,000 was distributed in 1985 and 1986. The twenty-fourth group of 100,000 was distributed in 1987 and 1988. The twenty-fifth group of 100,000 was distributed in 1989 and 1990. The twenty-sixth group of 100,000 was distributed in 1991 and 1992. The twenty-seventh group of 100,000 was distributed in 1993 and 1994. The twenty-eighth group of 100,000 was distributed in 1995 and 1996. The twenty-ninth group of 100,000 was distributed in 1997 and 1998. The thirtieth group of 100,000 was distributed in 1999 and 2000. The thirty-first group of 100,000 was distributed in 2001 and 2002. The thirty-second group of 100,000 was distributed in 2003 and 2004. The thirty-third group of 100,000 was distributed in 2005 and 2006. The thirty-fourth group of 100,000 was distributed in 2007 and 2008. The thirty-fifth group of 100,000 was distributed in 2009 and 2010. The thirty-sixth group of 100,000 was distributed in 2011 and 2012. The thirty-seventh group of 100,000 was distributed in 2013 and 2014. The thirty-eighth group of 100,000 was distributed in 2015 and 2016. The thirty-ninth group of 100,000 was distributed in 2017 and 2018. The fortieth group of 100,000 was distributed in 2019 and 2020. The forty-first group of 100,000 was distributed in 2021 and 2022. The forty-second group of 100,000 was distributed in 2023 and 2024. The forty-third group of 100,000 was distributed in 2025 and 2026. The forty-fourth group of 100,000 was distributed in 2027 and 2028. The forty-fifth group of 100,000 was distributed in 2029 and 2030. The forty-sixth group of 100,000 was distributed in 2031 and 2032. The forty-seventh group of 100,000 was distributed in 2033 and 2034. The forty-eighth group of 100,000 was distributed in 2035 and 2036. The forty-ninth group of 100,000 was distributed in 2037 and 2038. The fiftieth group of 100,000 was distributed in 2039 and 2040. The fifty-first group of 100,000 was distributed in 2041 and 2042. The fifty-second group of 100,000 was distributed in 2043 and 2044. The fifty-third group of 100,000 was distributed in 2045 and 2046. The fifty-fourth group of 100,000 was distributed in 2047 and 2048. The fifty-fifth group of 100,000 was distributed in 2049 and 2050. The fifty-sixth group of 100,000 was distributed in 2051 and 2052. The fifty-seventh group of 100,000 was distributed in 2053 and 2054. The fifty-eighth group of 100,000 was distributed in 2055 and 2056. The fifty-ninth group of 100,000 was distributed in 2057 and 2058. The sixtieth group of 100,000 was distributed in 2059 and 2060. The sixty-first group of 100,000 was distributed in 2061 and 2062. The sixty-second group of 100,000 was distributed in 2063 and 2064. The sixty-third group of 100,000 was distributed in 2065 and 2066. The sixty-fourth group of 100,000 was distributed in 2067 and 2068. The sixty-fifth group of 100,000 was distributed in 2069 and 2070. The sixty-sixth group of 100,000 was distributed in 2071 and 2072. The sixty-seventh group of 100,000 was distributed in 2073 and 2074. The sixty-eighth group of 100,000 was distributed in 2075 and 2076. The sixty-ninth group of 100,000 was distributed in 2077 and 2078. The seventieth group of 100,000 was distributed in 2079 and 2080. The seventy-first group of 100,000 was distributed in 2081 and 2082. The seventy-second group of 100,000 was distributed in 2083 and 2084. The seventy-third group of 100,000 was distributed in 2085 and 2086. The seventy-fourth group of 100,000 was distributed in 2087 and 2088. The seventy-fifth group of 100,000 was distributed in 2089 and 2090. The seventy-sixth group of 100,000 was distributed in 2091 and 2092. The seventy-seventh group of 100,000 was distributed in 2093 and 2094. The seventy-eighth group of 100,000 was distributed in 2095 and 2096. The seventy-ninth group of 100,000 was distributed in 2097 and 2098. The eightieth group of 100,000 was distributed in 2099 and 2100. The eighty-first group of 100,000 was distributed in 2101 and 2102. The eighty-second group of 100,000 was distributed in 2103 and 2104. The eighty-third group of 100,000 was distributed in 2105 and 2106. The eighty-fourth group of 100,000 was distributed in 2107 and 2108. The eighty-fifth group of 100,000 was distributed in 2109 and 2110. The eighty-sixth group of 100,000 was distributed in 2111 and 2112. The eighty-seventh group of 100,000 was distributed in 2113 and 2114. The eighty-eighth group of 100,000 was distributed in 2115 and 2116. The eighty-ninth group of 100,000 was distributed in 2117 and 2118. The ninetieth group of 100,000 was distributed in 2119 and 2120. The ninety-first group of 100,000 was distributed in 2121 and 2122. The ninety-second group of 100,000 was distributed in 2123 and 2124. The ninety-third group of 100,000 was distributed in 2125 and 2126. The ninety-fourth group of 100,000 was distributed in 2127 and 2128. The ninety-fifth group of 100,000 was distributed in 2129 and 2130. The ninety-sixth group of 100,000 was distributed in 2131 and 2132. The ninety-seventh group of 100,000 was distributed in 2133 and 2134. The ninety-eighth group of 100,000 was distributed in 2135 and 2136. The ninety-ninth group of 100,000 was distributed in 2137 and 2138. The hundredth group of 100,000 was distributed in 2139 and 2140. The hundred and first group of 100,000 was distributed in 2141 and 2142. The hundred and second group of 100,000 was distributed in 2143 and 2144. The hundred and third group of 100,000 was distributed in 2145 and 2146. The hundred and fourth group of 100,000 was distributed in 2147 and 2148. The hundred and fifth group of 100,000 was distributed in 2149 and 2150. The hundred and sixth group of 100,000 was distributed in 2151 and 2152. The hundred and seventh group of 100,000 was distributed in 2153 and 2154. The hundred and eighth group of 100,000 was distributed in 2155 and 2156. The hundred and ninth group of 100,000 was distributed in 2157 and 2158. The hundred and tenth group of 100,000 was distributed in 2159 and 2160. The hundred and eleventh group of 100,000 was distributed in 2161 and 2162. The hundred and twelfth group of 100,000 was distributed in 2163 and 2164. The hundred and thirteenth group of 100,000 was distributed in 2165 and 2166. The hundred and fourteenth group of 100,000 was distributed in 2167 and 2168. The hundred and fifteenth group of 100,000 was distributed in 2169 and 2170. The hundred and sixteenth group of 100,000 was distributed in 2171 and 2172. The hundred and seventeenth group of 100,000 was distributed in 2173 and 2174. The hundred and eighteenth group of 100,000 was distributed in 2175 and 2176. The hundred and nineteenth group of 100,000 was distributed in 2177 and 2178. The hundred and twentieth group of 100,000 was distributed in 2179 and 2180. The hundred and twenty-first group of 100,000 was distributed in 2181 and 2182. The hundred and twenty-second group of 100,000 was distributed in 2183 and 2184. The hundred and twenty-third group of 100,000 was distributed in 2185 and 2186. The hundred and twenty-fourth group of 100,000 was distributed in 2187 and 2188. The hundred and twenty-fifth group of 100,000 was distributed in 2189 and 2190. The hundred and twenty-sixth group of 100,000 was distributed in 2191 and 2192. The hundred and twenty-seventh group of 100,000 was distributed in 2193 and 2194. The hundred and twenty-eighth group of 100,000 was distributed in 2195 and 2196. The hundred and twenty-ninth group of 100,000 was distributed in 2197 and 2198. The hundred and thirtieth group of 100,000 was distributed in 2199 and 2200. The hundred and thirty-first group of 100,000 was distributed in 2201 and 2202. The hundred and thirty-second group of 100,000 was distributed in 2203 and 2204. The hundred and thirty-third group of 100,000 was distributed in 2205 and 2206. The hundred and thirty-fourth group of 100,000 was distributed in 2207 and 2208. The hundred and thirty-fifth group of 100,000 was distributed in 2209 and 2210. The hundred and thirty-sixth group of 100,000 was distributed in 2211 and 2212. The hundred and thirty-seventh group of 100,000 was distributed in 2213 and 2214. The hundred and thirty-eighth group of 100,000 was distributed in 2215 and 2216. The hundred and thirty-ninth group of 100,000 was distributed in 2217 and 2218. The hundred and fortieth group of 100,000 was distributed in 2219 and 2220. The hundred and forty-first group of 100,000 was distributed in 2221 and 2222. The hundred and forty-second group of 100,000 was

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

November 14, 1923

No. 46

Top-Dressing Wheat With Straw

"The problem of utilizing the oats and wheat straw on the grain farms of the corn belt has become a serious one. When we consider that one ton of dry straw contains about the same amount of nitrogen and phosphorus, and more than twice as much potassium as a ton of fresh stable manure, the desirability of properly using this material is evident. The fact that it contains a larger proportion of plant food does not, however, prove that straw is superior to manure. It not only decays more slowly, but may cause unfavorable bacterial activity in the soil if applied in too large quantities immediately preceding or during the growing period of the crop plants for which it is used.

The practice of top-dressing wheat with straw during the winter is a common practice in some communities. The Illinois Experiment Station began a separate series of experiments in 1918 to determine the advisability of this practice. During the last four years straw has been used at rates varying from one-half to four tons per acre and applied as early as the eighth day of October and as late as the first of March. The results to date indicate no apparent benefit from the use of straw as a winter mulch for wheat, and when applied in quantities greater than two tons to the acre appears to have a somewhat detrimental effect.

The years during which this work has been conducted have not been especially severe and it is possible that, in very unfavorable winters, straw may have a beneficial effect. This seems apparent when studying the yields on the University North Farm Experiment Field at Urbana which follow:

WHEAT YIELDS

	1913-1922 incl. 10 yr. aver.	1917
1. None.....	27.3	20.5
2. Residues	29.7	40.3
3. Manure	30.6	16.5
4. Residues and Limestone	33.0	45.0
5. Manure, Limestone	35.8	24.7
6. Residues, Limestone, Phosphate	43.8	50.7
7. Manure, Limestone, Phosphate	41.2	37.7
8. Residues, Limestone, Phosphorus, Potash	40.7	50.7
9. Manure, Limestone, Phosphorus, Potash	39.9	37.8

1917 was a very severe winter. The low temperature was accompanied by a high wind and according to Doctor C. G. Hopkins, 'The straw which had been applied in the early winter as a top-dressing on plots 2, 4, 6, and 8, served as a protection not by itself alone, but also because of the snow which was held by the straw, while almost no snow remained on the other parts of the field.'

It appears therefore that in a few exceptional years a benefit may result from the use of straw as a top-dressing on wheat, but it cannot be safely assumed that this benefit may be expected every year." - O. H. Sears, Dept. of Agronomy.

1951, 41: 17-18

1. *Phragmites* (Common Reed)

[illegible]

10

Farmers' Market - "The Logan County Farm Bureau opened a Producers' Market on October 27 at Lincoln. Farm products consisting of dressed poultry, eggs, butter, buttermilk, cream, fruits and vegetables, sausage, meats, cakes, pies, cookies, doughnuts, apple butter, jellies, sorghum, cottage cheese, bread, pressed chicken, flowers and honey were offered for sale. There are thirteen booths with two attendants to each booth. The market will be in operation each Saturday. On the opening day \$550 worth of products were sold, and on the following Saturday the sales amounted to over \$700. All of the products offered were sold out before dinner on both days.

Both buyer and seller were well pleased. "Freshness and Quality of Product" is the slogan of the market." - V. Vaniman.

Watch the Cream Separator - "The testers in Illinois cow testing associations have reported losses as high as \$25 a month from inefficient skimming of a cream separator. In most cases the loss of butter fat in skim milk can be reduced to the minimum if proper attention is given the separator. If efficient skimming is to be obtained the following conditions must be observed:

1. Gain the proper speed gradually and turn at the speed which is recommended by the manufacturer, (usually found on the separator handle).
2. Good, clean, light oil must be used.
3. The machine must be cleaned after each separation.
4. The bowl must be in perfect balance.
5. Milk should be 85 degrees to 95 degrees Fahrenheit at time of separation.
6. Allow the float to regulate the inflow of milk. Never start the inflow until the machine has reached its proper speed.
7. Set the separator to deliver cream, preferably 30 to 45 percent."

- C. S. Rhode, Dairy Dept.

U. S. Produces and Consumes One-Fourth of World's Milk - "The great care given in the United States to the wholesomeness of milk and other dairy products is frequently commented upon by world travelers. That the people in this country appreciate the efforts made to protect the health of cattle and to keep milk sweet and clean from the farm to the consumer is shown by the quantities of dairy products they use.

Figures compiled by the United States Department of Agriculture, and recently called to the attention of the World's Dairy Congress at Washington, by Dr. John R. Mohler, Chief of the Bureau of Animal Industry, show that in this country there are approximately 25,000,000 dairy cows, one-fourth of all the milch cows in the world, and we consume all the product of this great herd, altho we have only about one-sixteenth of the world's population. Uncle Sam's best recommendation for the milk, butter, cheese, and condensed milk produced here is the fact that he uses them himself." - U. S. D. A.

International College Night - "The International Live Stock Exposition management is planning to make the Monday (December 3) evening entertainment "College Night". The College of Agriculture is very anxious to have the University of Illinois well represented and urge all Illini who attend the International at Chicago to be in the "Illinois Block" that evening with the faculty, alumni and students. Farm advisers are asked to bring this matter to the attention of the alumni and friends of the University of Illinois. Seats may be reserved in advance by mailing check to A. K. Mackey, Animal Husbandry Department, University of Illinois, Urbana, before November 20 and tickets will be mailed back before November 26. Seats will cost \$1.00 each.



Seed Corn Demonstrations Prove Valuable

Henry County - "Mr. Krehler of the U. S. Department of Agriculture spent the 29th and 30th in the county getting the results on two corn disease plots. Disease susceptible Funk corn yielded from 10 to 17 percent less than nearly disease free Funk corn. A very susceptible corn yielded from 32 to 37 percent less. The quality of the nearly disease free corn was also considerably better." - J. W. Whisenand.

La Salle County - "S. S. Carney represented the University of Illinois at two seed corn demonstrations arranged by the Farm Bureau October 5. Seventy-five farmers were at the morning demonstration and 60 at the afternoon demonstration, making a total of 135. The meeting had the very good effect of arousing interest throughout the county in more careful seed selection." - W. J. McLaughlin.

McDonough County - "One of the corn disease demonstration plots has been husked and some very striking differences were shown. Seed from which the diseased ears had been eliminated by the germination test last spring produced 15 bushels more sound corn per acre than diseased seed. Seed selected for the Utility type produced 7.5 bushels per acre more than the starchy or rough type.

The Democrat or chinch bug resistant corn grown in the county has made a fairly good showing. On one farm where there was considerable infestation the line between Reid's Yellow Dent and the resistant variety was apparent to the row and the owner says that there is a difference in feeding value in favor of the Democrat corn in the fodder as well as the corn." - R. C. Doneghue.

Crawford County - "In cooperation with the Smith-Hughes teacher of agriculture at Palestine, a utility type corn show was held at the High School Building. The twelve rural schools of the High School District were visited by the adviser and in addition to making a brief talk on seed corn selection, the local exhibit of ten-ear samples at each school was judged.

The preliminary work took up two days and a third day together with a night program completed the campaign selection of better seed corn.

The Farm Bureau donated the silver cup for the championship exhibit, and stood the expenses of advertising and films for the evening program." - H. F. Crosby.

A Good Conference - "One of the outstanding meetings of the month was the conference held by the 17th congressional district at Bloomington under the auspices of the Illinois Agricultural Association. Mr. Walton Petet was present during the entire day and led the round table discussion, answered numerous questions and gave excellent talks both during the day and in the evening. Many farmers were present from the five counties in the district. At night the banquet was well attended not only by farmers throughout the district but by a number of bankers and business men. It was the unanimous opinion of those present that this was one of the best meetings held in the district and it is hoped that the Illinois Agricultural Association can conduct similar meetings in the future." - H. Fahrnkopf.

Poultry and Dairying Drive Wolf From the Door - "In our farm visits our attention is constantly called to the fact that where poultry is being properly culled and cared for and where a few good dairy cows are being properly fed the farm family makes a good living and most of this class are able to pay cash for the things they buy. The moral seems to be that -

If you'll stock your farm with hens and cows
With home grown feed fill your bins and mows
You'll keep the wolf clear off your ranch
And jingle money in your pants."

- E. W. Rusk, Macoupin Co.

THE HISTORY OF THE UNITED STATES

The history of the United States is a story of growth and change. From the first settlers to the present day, the nation has evolved through various stages of development. The early years were marked by exploration and settlement, followed by a period of rapid expansion and industrialization. The American Revolution and the Civil War were pivotal moments in the nation's history, shaping its identity and values.

The United States has a rich and diverse cultural heritage. The contributions of immigrants from various parts of the world have shaped the nation's identity. The American Dream, the belief that anyone can achieve success through hard work and determination, is a central theme in the nation's history. The American Revolution and the Civil War were pivotal moments in the nation's history, shaping its identity and values.

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Vol. VI

November 21, 1923

No. 47

Tractor Schools

at

University of Illinois

"The Department of Farm Mechanics, College of Agriculture, University of Illinois, will conduct two one-week Tractor Schools during the weeks of January 14-19 and January 23 to February 2, 1924. These two courses come the week before and the week after the Farmers' Week Program, Jan-

uary 21-25. The total registration for each week will be limited to 35 students. Twenty-one hours are to be devoted to lectures and twenty-two hours to practical laboratory work during the week.

The lecture work in this course will cover the construction, theory, operation, maintenance, and repair of gasoline engines and oil burning tractors. The laboratory work will consist of practical work in engine and tractor operation, magnetos, carburetors, engine timing and wiring, trouble work and adjustments. In the laboratory there are 30 different makes of gas engines, and fifteen tractors of the most representative types. The laboratory is also well equipped with magnetos, carburetors, and samples of many of the smaller parts of gas motors.

Those who desire to attend the school should write to the Department of Farm Mechanics for further information and application blanks as soon as possible. Permission to register will be given in the order in which applications are received." R. I. Shawl, Farm Mechanics Department.

"The Second National Club Congress to be held at the International Live Stock Exposition, December 1-3, will be the greatest gathering of club members ever assembled at one time in the history of club work. Over 1400 boys and girls, the most outstanding members in their respective counties and states, will meet for a week of education, inspiration and a good time. These trips are made possible by prominent railroad companies, industrial concerns, state and county fair associations, and farm organizations. The program will open Monday, December 3, with a tour of the Live Stock Exposition and a big 'Rally of the States' in the evening. Tours have been provided for every day of the week covering manufacturing plants, packing plants, Lincoln Park, the Art Institute, etc.

Wednesday night, December 5, the I. A. A. will be hosts to all Illinois club boys and girls. They are providing a free banquet and a program afterward. Each county will sit in a group and will be expected to be ready with songs, yells, and stunts.

Reservations have been made at the Morrison Hotel for 200 boys and girls. Counties sending delegations should notify the Extension Office, 1210 Springfield Avenue, Urbana, Illinois, at once if reservation is desired with the Illinois delegation.

Counties sending club champions to this great meeting should make use of the opportunity to point out to club members the advantages of doing good work thruout the year. Coming at this time, when records are being checked it will be especially effective. The winners of the above trips should be commended for their work and on their return should be used in club meetings in the county to encourage and inspire better club work." - E. I. Pilchard, Junior Club Work.

7-15-40

U.S. DEPARTMENT OF AGRICULTURE

17-11

TO THE SECRETARY OF AGRICULTURE
WASHINGTON, D. C.
FROM THE DIRECTOR OF THE BUREAU OF PLANT INDUSTRY
SUBJECT: [Illegible]
[Illegible text follows, appearing to be a memorandum or report.]

[Illegible text block]

[Illegible text block]

[Illegible text block]

Fattening Western Lambs - "The Department of Animal Husbandry is conducting an experiment similar to one of last year to determine the most efficient rations for fattening western lambs. One hundred and fifty lambs, divided into six lots are being used. The lambs were purchased on the Chicago market and represent the type of lambs ordinarily obtained when good Hampshire rams are crossed with range ewes.

The standard ration used in the experiment will be shelled corn and alfalfa hay with which the other rations will be compared. The most direct comparison will be soybean hay and alfalfa hay when fed with shelled corn. This comparison was also made last year and the soybean hay was found to be about four-fifths as valuable as alfalfa hay.

It is planned to feed the lambs about 100 days. This will enable those in attendance at Farmers' Week to see the results in the different lots." -

Over Production Versus Under Consumption - "There seems to be more milk produced than there is a keen demand for in some sections, but the real trouble is under-consumption. While this is an economic question for the producers, it is a vital question of growth and health for the consumers, especially the children. There is much malnutrition among children, both rich and poor, because of the dangerously low consumption of milk.

In walking down the streets of Liverpool, England, it was shocking to see the number of young men and women, scarcely out of their teens, with their front teeth badly decayed or all gone, simply from lack of sufficient minerals in their diet. Milk is the best way to supply these minerals.

Dr. McCollum, of John Hopkins University, showed at the World's Dairy Congress, just closed, how underfed, undersized negro children increased rapidly in size and weight, and were soon restored to normality when a quart of milk was added to their daily diet. These same children ceased growing again when put back on their previous diet containing no milk. Milk is the chief source of calcium, as well as some vitamins, and these are the great lack in children's diet today.

At the present time the average consumption of milk for the whole United States is only .46 of a quart per capita. Before the war, Sweden, Denmark, Switzerland, and Germany consumed over 50 per cent more milk per capita than we do. Scientific facts show that we should double our consumption of milk. It has been proven that children absolutely need at least a quart of milk a day, and adults need from a half to three-fourths of a quart. Increasing the consumption of milk is, therefore, a question of health, vigor, and usefulness." - Wilber J. Fraser.

A Good Book for Your Library - "Followers of the horse business and horse-lovers are indebted to the National Geographic Society, Washington, D. C., for their recent publication of the book 'The Horses of the World'. The text has been written by William Harding Carter, a Major-General in the United States Army at the time of his retirement. The twenty-four color plates which accompany the text are made from the original oil paintings, done expressly for this purpose by Edward Herbert Miner of New York City, from life studies of animals. Photographs of horses, mules, asses and zebras, race horses and hunters, draft horses and ponies, showing the world-wide distribution and use of man's most faithful companion and servant, make the book one of fascinating interest to young and old. The story gives the clear-cut technical facts that one would expect from a great scientific organization, yet gives them in such a way that school children will learn the difference between the various species and breeds without realizing that they are acquiring actual scientific knowledge. Each of the present day breeds is sketched in a clear, concise fashion. The peculiar characteristics of mules which make them superior to the horse for certain kinds of work are brought out, and facts are told of which relatively few men who have handled mules for years are aware." - Wayne Dinsmore, Sec'y. Horse Ass'n. of America.

New Extension Program - "The Southern Illinois Adviser's Conference held at Centralia on October 31 and November 1 was one of the best we have attended. A new state-wide plan of extension has been adopted which will insure more help from the University of Illinois." - C. W. Simpson, Gallatin County.

"The Farm Adviser's Conference held in Centralia was one of the best that has been held for some time. A valuable feature of the conference was a period devoted to interviews with each of the extension men to arrange for dates." - W. K. Galeener, Williamson County.

"The fall district conference at Decatur from the Farm Bureau business standpoint, we believe, was one of the most profitable we have yet attended. There could be nothing more important than getting down to brass tacks on a good constructive program. We believe this was done at this conference." - E. M. Phillips, Greene County.

Soybean News - "Soybean threshing has been on during the month whenever the weather was fit. Yields on the whole have been very good, particularly with the Manchu varieties. One field of 30 acres making 34 bushels per acre, while several of the fields yielded from 25 to 30 bushels. Lack of inoculation has shown a marked lowering in yields. Two fields of Manchus that were near the one that made 34 bushels and with other conditions just as good, except inoculation, made only 21 bushels. A field of Ebony's that were not inoculated made only 5 bushels where other fields of Ebony's were making 15 to 20 bushels. One field of volunteer Ebony's in oats stubble made 6 bushels per acre. The A. K. beans have yields running as high as 30 bushels per acre but on the whole they have seemed to average about 5 bushels less than the Manchus." - A. L. Higgins, Moultrie County.

"A series of meetings is being planned for the month of November, in which the results obtained from feeding soybeans, and the soybean productions in their various forms will be taken up. Due to the fact that Clark county is already a large producer of soybeans, and has a soil well adapted for soybeans, it is essential that the producer know how to obtain the best results in using them." - W. W. Merritt, Clark County.

Limestone Campaign Brings Results - "Our farm bureau year closed October 1, and according to our records we were able thru our campaign to increase the use of limestone 400% over a year ago. Last year they used less than 30 cars and during the last 12 months it went over 125 car loads. There were 61 farmers using it for the first time. The increasing difficulty of getting a stand of clover makes them turn to limestone. Our campaign along this line included over 2000 soil tests, a half dozen auto tours, numerous meetings and newspaper articles upon local results with limestone." - F. E. Fuller, Marshall-Putnam County.

Good Publicity Plans - "The editor of the Marshall-Herald, cooperating with the Clark County Farm Bureau and the manager of the Marshall Live Stock Shipping Association, issued a special live stock shipping association number. Illustrations and several columns of material were devoted to the Marshall Live Stock Shipping Association and the Producers Commission companies at terminal markets. I consider this a very good method of giving publicity to a worthy project." - J. C. Spitler.

Working Thru Groups - "One of our farmers called us to his farm recently and made good use of us while there. He had gathered up a bunch of his neighbors. We first tested the soil on a field seeded with alfalfa, next we demonstrated how to select seed corn, then we made a tour of inspection of the orchard, then we culled poultry and lastly he ordered five bushels of clover seed. This was all done in one-hour and one-half." - G. B. Kendall, Morgan County.

The Extension Messenger

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UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI

November 28, 1923

No. 48

Farmers' Week "Farmers' Week at the University is designed to give busy farmers an opportunity to secure valuable information and instruction in subjects relating to farming and farm life with a small expenditure of time and money. The only expenses will be those of travel and board as there are no registration fees and no other requirements.

Prominence will be given to the economic side of farming, that phase which has to do with marketing, efficient management of the business of farming, and the planning of the farm as a productive and economic unit.

Seven different sections - Agronomy, Animal Husbandry, Dairy Husbandry, Farm Management, Farm Mechanics, Horticulture, and Beekeeping will each hold some fifteen class periods which will be devoted to lectures, discussions, and demonstrations. Other features of the week will include the dedication of the new Agricultural Building and the annual Farmers' Good-Fellowship Banquet.

The College of Agriculture extends a cordial invitation to the farmers of Illinois and to all others interested, to attend "Farmers' Week" and join in the feast of good things pertaining to the study of agriculture."

How to Invoice a Year's Work! - "The Burr Oak Boys and Girls Club in Ford county held a very successful achievement program on Friday evening, November 23. The program was started with a three course banquet prepared by the mothers of the club members. The song leader of the club led in some singing during the meal. Gladys Leenerman, a pig club member, acted as toastmistress and introduced Albert Ackerman who gave a history of the Burr Oak Club. He stated that twenty-one members had finished the work this year. The farm adviser, George T. Swaim, was called upon and gave the members a word of encouragement. Sherman Fulton, President of the Young Farmers' Club, an organization of young men who were former club members, remarked about the value of the club work to the young folks.

E. I. Pilchard responded to a toast 'When Dreams Come True' in a few words of inspiration to the members, following which he awarded the achievement pins to the deserving members. Mr. C. J. Rohrer, Manager of the Sibley Estate, awarded the two trips given by the Sibley Estate to the winners in the junior and senior contest respectively, the first receiving a trip to the International Live Stock Exposition, December 1-3 and the latter to Farmers' Week at the University of Illinois, January 21-26. Mr. Albert Schman, representing the Young Farmers' Club, awarded a free trip to the International to Clarence Stein. George Stockdale, representing the parents, read a worthy letter of appreciation to all who had contributed to the success of the club work in the community. Mr. L. E. Rust, the local leader, was called upon and concluded the program in a fitting manner.

The dishes and tables were stacked against the wall and everyone enjoyed themselves in some well chosen games.

Such a meeting is a very fitting way to end the club year and award the achievement honors. It not only gives encouragement to the members but unites the whole community in a worth while task."

SUGGESTED MATERIAL FOR FARM BUREAU WINDOW DISPLAY

THE DAIRY INDUSTRY IN WHITESIDE COUNTY.

NUMBER OF DAIRY CATTLE - 21,854

VALUE OF DAIRY CATTLE - \$1,474,249

VALUE OF DAIRY PRODUCTS PRODUCED ANNUALLY - \$784,297

AVERAGE VALUE OF DAIRY PRODUCTS PER FARM - \$215

GALLONS OF MILK SOLD - 556,162

POUNDS OF BUTTER FAT SOLD - 354,511

WE NEED

More and better pure bred bulls.

Records of production kept on every herd.

Better methods of feeding, care and management.

Disease free herds.

"A neat, well prepared window display attracts attention and offers a means of acquainting the public with important agricultural facts. The extent of the Dairy Industry or of other phases of farming in the county may be shown as indicated above. A window display featuring some phase of farming would have additional value if it were presented just before or at the time some project along that line was being developed in the county," - C. S. Rhode, U. of I.

Burn the Chinch Bug - "The season of 1923 was, on the whole, unfavorable to the development of the chinch bug. Heavy rains occurred in most sections of the infested area just before wheat harvest, and again during August and September. These rains killed large numbers of the chinch bugs and prevented the insect from increasing greatly in numbers during the past season. Many of the bugs survived these rains so that in the infested parts of the State considerable numbers will be found in their favorite winter hiding places. These shelters consist of the bases of the bunch forming grasses, the south side of hedges, ditch banks, and road sides, such shelters should be burned over sometime before April 1, 1924. Take advantage of the dry time during the winter and burn these places as thoroly as possible. Bugs killed now help to lower the cost of producing grain next year." - W. P. Flint,

Encouraging Sign - "During the month of October we had four farmers sign up for membership in the Whiteside County Farm Bureau unsolicited. Since the membership drive closed a year ago we have had 105 voluntary memberships to the Farm Bureau. One of the big projects that will be put on in December is a clean-up membership campaign by the township chairmen and directors in each township in the county. We are in hopes that our membership can be increased to 1600. We have now 1417 members." - L. O. Wise, Whiteside County.

Legumes Improve Sandy Soils - "Excessively sandy soils are found in Illinois in three general areas, which may be roughly defined as centering in Kankakee, Macon and Whiteside counties, respectively. In these areas, dune sand and those sandy loams which are light in color and coarse in texture, are the most difficult of agricultural development; this discussion is intended to cover only those types.

These soils are low in plant food elements; they are too 'light' and friable; drainage is very rapid because of coarse texture and lack of water-holding material; aeration is therefore excessive, and organic matter, if added, is rapidly oxidized. Since texture cannot be artificially changed, it is evident that increase of organic content is the only method by which these unfavorable conditions may be somewhat alleviated.

It seems that the most feasible and perhaps only feasible method of increasing the organic content of these types is thru the growth of legumes. Such increase will necessarily be slow; however, it appears from results secured on the Oquawka experiment field, which is located on dune sand, that crop yields are materially and quickly increased by legumes grown in the rotation.

Liming is necessary for legume growth on the types under discussion. If therefore, the two plots in each series which receive lime in addition to either manure or residues are compared to the respective manure or residue plots which do not receive lime, differences in yields of non-legumes are due to two factors; correction of acidity and consequent legume growth.

This comparison for the period 1915-1922 gives the results noted below after clover, soybeans or sweet clover had been grown on the limed plots; the increase given is the average increase for lime and legume for the number of crops stated:

Corn	- 12 crops	.....	13.4 bu. increase	
Wheat	- 12 crops	.....	2.2 "	"
Rye	- 16 crops	.....	7.2 "	"

Little or no legume stand was ever secured on unlimed plots; so on comparable areas, liming must precede the sowing of legumes; this combination appears to be one meriting attention from farm owners in similar regions as offering some immediate return and possible permanent improvement." - M. B. Harland, U. of I.

University Exhibits at International - "The University of Illinois will be represented at the International Live Stock Exposition with an exhibit of beef cattle, sheep and swine and a general educational exhibit. The general exhibit will include a display of corn illustrating the results of investigational work on corn diseases and chinch bug resistant varieties, beef production work under corn belt conditions and results of farm management studies.

In cooperation with the United States Department of Agriculture, the University will show live specimens of the various types of swine and also carcasses and cuts of meat from each type. This part of the exhibit will be in the Government Exhibit Room in the north end, first floor of the International Coliseum."

Crops - "A two day tour over the county visiting 8 chinch bug variety test plots, 8 diseased and disease free corn plots and 3 soybean variety plots was held with 125 people attending, some from Shelby, Macon, Sangamon and Moultrie counties. J. C. Hackleman and J. P. Flint of the University of Illinois were present on the 11th. Black Hawk, Democrat and Golden Beauty were outstanding in their resistance to bugs. The disease free plots showed much better on 7 plots, 7 bushels per acre on O. D. Whitmer's. On others due to bugs and windstorms no difference could be noted. In the soybeans, Manchur, A. K. and Midwest and Hurrelbrink were outstanding as grain beans, Wilson 5, Sable, Virginia and Lexington as hay beans. Hurrelbrink is in a class by itself for a late corn bean. We could find no good early corn bean. Ito San, Manchur, A. K. and Black Eyebrow being only partially satisfactory." C. E. Hay, Christian County.



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December 5, 1923

No. 49

Reduced Rates
to
Farmers' Week

The railway lines of the Western Passenger Association and the Central Passenger Association have authorized reduced railroad rates as follows:

"Open rate of fare and one-half with minimum excursion fare of \$1.00, from points in Illinois, also from St. Louis, Mo. to Urbana and Champaign and return; excursion tickets to be sold on January 19-26, inclusive, with final return limit of January 28, 1924."

Annual Reports - "The annual reports are due at the State Leader's Office, December 10. To some the annual report is merely a mechanical operation and is put together with a feeling that so much time and effort are wasted. To the adviser who feels this way the annual report means nothing. The time for the preparation of the annual report should be welcomed as an opportunity to give careful study to the projects stressed during the past year; the measure of progress made; the recognition of mistakes, and how they may be avoided the coming year, the publicity that may be given to the activities in which the bureau has engaged, and a better vision and a clearer understanding of the projects that should be stressed the coming year." - J. C. Spitler.

State Horticultural Society Meeting - "The annual meeting of the Illinois State Horticultural Society will be held in Urbana, December 11, 12, 13 and 14. Headquarters will be the new Urbana-Lincoln Hotel. This meeting combines the advantages of a splendid horticultural program, an apple show, a display of orchard accessories and an opportunity to meet and talk with fellow horticulturists. The program this year is unusually strong and covers the whole field which was made possible by increasing the time from three to four days. Men from other states who will address the meeting are: R. G. Phillips of New York, for years Secretary of the International Apple Shippers' Association; Aaron Sapiro of California, Council for the American Farm Bureau Federation; B. S. Pickett, of Iowa, Head of the Department of Horticulture, Ames, Iowa; R. D. Anthony of Pennsylvania, Pomologist of Pennsylvania State College; Ben E. Niles of Kentucky, Secretary of the Kentucky State Horticultural Society; M. J. Dorsey of West Virginia, Head of the Department of Horticulture at West Virginia University; William E. Nelson of Wisconsin, delegate from the Wisconsin State Horticultural Society. Visitors will hear for the first time two men who have recently come to the University; Professor Karl B. Lohmann, in charge of Landscape Gardening, will give an illustrated lecture, and Wallace Parks of the Department of Entomology will talk on Bees. From our own state we will have R. B. Endicott the veteran asparagus grower and H. W. Day head of the State Department Inspection Service, in addition to members of the Departments of Horticulture and Entomology at the University who will handle the pruning, spraying and small fruit subjects. A feature of the meeting will be a banquet in honor of two of our foremost horticulturists. An opportunity will also be given to inspect the new Horticultural Field Laboratory and cold storage which is now in full operation." - W. S. Brock.

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1. The first part of the report is a general introduction to the subject of the study. It discusses the importance of the problem and the objectives of the research.

2. The second part of the report is a detailed description of the methods used in the study. It includes a description of the experimental design, the subjects, and the procedures.

3. The third part of the report is a presentation of the results of the study. It includes a description of the data and the statistical analysis.

4. The fourth part of the report is a discussion of the results and their implications. It discusses the strengths and limitations of the study and suggests directions for future research.

5. The fifth part of the report is a conclusion. It summarizes the main findings of the study and provides a final statement on the importance of the research.

6. The sixth part of the report is a list of references. It includes a list of the books, articles, and other sources used in the study.

7. The seventh part of the report is an appendix. It includes a list of the tables and figures used in the study.

8. The eighth part of the report is a glossary. It includes a list of the terms used in the study and their definitions.

9. The ninth part of the report is a bibliography. It includes a list of the books, articles, and other sources used in the study.

10. The tenth part of the report is a list of the authors' names and their affiliations.

11. The eleventh part of the report is a list of the authors' names and their affiliations.

12. The twelfth part of the report is a list of the authors' names and their affiliations.

13. The thirteenth part of the report is a list of the authors' names and their affiliations.

14. The fourteenth part of the report is a list of the authors' names and their affiliations.

15. The fifteenth part of the report is a list of the authors' names and their affiliations.

16. The sixteenth part of the report is a list of the authors' names and their affiliations.

17. The seventeenth part of the report is a list of the authors' names and their affiliations.

18. The eighteenth part of the report is a list of the authors' names and their affiliations.

19. The nineteenth part of the report is a list of the authors' names and their affiliations.

20. The twentieth part of the report is a list of the authors' names and their affiliations.

"The Tuberculosis Eradication Division of the Bureau of Animal Industry, United States Department of Agriculture states that testing was reported to the Bureau as having been done by accredited veterinarians under the uniform plan, of about 8,300 herds containing nearly 166,000 head of cattle, which was an increase of about 65 percent over the previous year. The report indicates a marked increase in expenditures in operating expenses, exclusive of indemnity, on the part of the county officials in many counties thruout the United States, the increase having been more than 100 percent over that reported for the fiscal year 1922.

With reference to area work, the report indicates that there were tested under this plan about 209,000 herds which contained nearly 1,800,000 head of cattle, and that these figures were approximately 70 percent of the total herds tested and about 51 percent of the total cattle. Eighty-one counties reported as having completed one test of all the cattle within their area, an increase of 50 counties over the preceding year.

A summary of 72 counties that had a test of all cattle, indicates that the work has been accomplished at a cost of approximately \$.34 per head. In these counties there were tested over 1,000,000 head of cattle. This cost includes all expense, exclusive of indemnity, incurred by all of the cooperating forces.

The problem of cleaning and disinfecting all premises following the removal of reactors becomes a difficult question, especially in area work where so many infected premises are located. Despite the haste incident to area testing, inspectors should not neglect to properly instruct owners regarding the proper cleaning and disinfecting of their premises. It is advisable to have printed, or mimeographed copies of instructions regarding this work available for distribution to herd owners. Steps should be taken to see that instructions are properly carried out. An infected cow barn may be as dangerous as an infected cow."

Annual Meeting Reports - "Twelve hundred people attended the third annual rally day of the Macoupin county farm bureau on November 24, which was held in the large gymnasium of the Carlinville High School. This being the time of the annual meeting the program included reports of farm bureau officers, reports of adviser and assistant and the election of officers for the coming year.

There are at present 1178 members which is 390% more than when the farm bureau started in 1918. North Otter township, which leads all other townships in number of members, was given recognition for their achievement by being seated on the stage. The interest manifested by the membership is due in a large measure to the activities of 26 organized communities.

The farm bureau served a free lunch. This feature was so well organized that the entire crowd was served in about 45 minutes. An orchestra furnished music during the noon hour and the Blackburn College chorus sang at the beginning of the afternoon session.

It was encouraging to see the enthusiasm manifested and the support being given the farm bureau. Everyone seemed to be proud of the fact that they were associated with an organization that was serving the agriculture of the county."-J.C.S

"Our annual meeting was held November 9. Previous to 1922 we had been following the practice of a one-half day meeting with election of officers all in the afternoon. Last year we decided to serve a dinner. The serving of dinner was left to a country church which served at so much per plate. Our attendance the first two years was about 60. During the last two it has increased to 150 in 1922 and 275 in 1923. We heard many favorable comments on the good program and the excellent lunch. We believe that such a day is a real help to our bureau." - H. C. Wheeler, Lawrence County.

Farm Advisers' Attention - "Several of the growers over the state are making arrangements for exhibits at the Corn and Small Grain Show which is held under the auspices of the Illinois Crop Improvement Association at the time of FARMERS' WEEK January 21-26. Is your county going to be represented at this show?"

Producers' Market - "The Macon County Farm Bureau has opened a market in the Farm Bureau Building in Decatur. Farm Products of all kinds that the people of Decatur are interested in buying are offered for sale. The market day is Saturday and so far the supply has not been equal to the demand. All the booths are occupied by farm bureau members. The quality of the products offered together with the price will be the appealing factor to the patrons of the market." - V. Vaniman

Junior Farm Bureau - "Farm boys and girls of Knox county are finding themselves thru the Junior Farm Bureau. About fifty of these young people were at the last regular monthly meeting held in the Galesburg High School. Music, short talks upon current agricultural topics, and an address by an outside speaker, followed by timely motion pictures made up the program. The programs are varied by dialogues and an occasional amateur play. Several plays have been written and presented by members of the bureau. Wholesome fun and recreation are a feature after the regular program.

Several of the members have won trips to Sioux City and other honors. Mr. J. W. Adams is largely responsible for the success of the junior bureau. Fortunate will be the community with these young men and women operating the farms, managing the homes and partaking in the activities of the community." - J. D. Bilsborrow.

T. B. Testing - "The Calhoun County Farm Bureau was instrumental in getting some of the farmers to have their cattle tested for tuberculosis. In one herd of ten cows that was supplying milk to the citizens of Hardin every cow was found to be a reactor. Interest in testing for T. B. is intense." - V.V.

Bee Club Successful - "An inspection of the bees belonging to the Bee Club boys and girls indicated that in general they have been quite successful in their work. The club work will terminate and prizes will be awarded at the Farmers' Institute in November." - J. H. Allison, Calhoun County.

Membership More Interested - "More than one-fourth of our total membership attended the annual meeting this year. It is the first time that we have been able to get the members out in any number to hear the reports and help elect the officers for the coming year. I believe it is going to have good influence on this year's work." - C. B. Price, Cumberland County.

Using Home Grown Seeds - "Securing an adequate supply of reliable red clover seed was one of our chief problems this month. The keen demand for home grown seed was so great that early buying by the farmers was urged to insure them against having to buy imported seed later in the year. Last year, Sangamon county sold about twenty cars of seed; this year three or four cars will have to be brought into the county. We are trying to guard against imported seed." - I. A. Madden, Sangamon County.

Interest in Terracing Increasing - "Terracing lines were run on two farms this month. The interest in this line of work is gradually increasing and there will be several new fields terraced next year. The work is being done in fields both for orchard development and for general farming." - L. S. Foote, Union County.

"We have what we believe will be a monument to Farm Bureau work in this county for many years in the form of a terraced field. The cooperator is a good one and I believe will give the project its rightful attention and be an outstanding demonstration of what can be done in the way of terracing hillsides in Bond county." - Chas. Tarble, Bond County.



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December 12, 1923

No. 50

The Annual Illinois Seed Grain Show, including the Utility Corn Show, will be held in connection with **FARMERS' WEEK** at the University of Illinois. **JANUARY 21 — 26, 1924.** This will be the fourth annual Utility Corn Show to be held in Illinois and promises much greater interest than any previous show.

This Show is being sponsored by the University of Illinois, the Illinois Bankers' Association and the Illinois Crop Improvement Association. A special fund has been provided by the Bankers' Association. This provides substantial cash prizes for all corn classes and should materially increase interest in the show.

Two special classes have been added to this year's corn classification. One of these classes is especially designed for farm bureaus who evidence interest in this show. The five counties showing the ten highest scoring samples of corn will be awarded prizes in this class. The other class is an innovation in corn shows. This is a special class for peck samples of seed corn. Since at least 80% of the seed corn purchased by farmers is shelled, this should prove especially interesting and instructive.

The Utility Score Card will be used in scoring all samples of corn. The germination test, which is an integral portion of the Utility Score Card, will be required of all samples. This feature has always been of great interest to all visitors as well as exhibitors, and special plans are being made to make this coming show more successful than any previously held.

The corn must be in Urbana not later than Wednesday, January 9, in order to be scored and the representative ten-kernel samples taken from each ear for the germination test. This test will be completed and the germinating seedlings shown alongside the corresponding samples.

Special premium lists will be ready for distribution December 15. For premium lists and other information, write the College of Agriculture, University of Illinois, Urbana, Illinois.

Illinois Ton Litter Project Favors Purebreds - "A strong argument for the use of purebreds is found in the summary of the work of the Illinois Ton Litter Club for the year 1923. The results show that a total of 80 litters reached the weight of 2000 pounds or more in a period of 180 days. Of the eighty litters that qualified sixty of them or seventy-five per cent were purebreds. Ten litters or twelve and one-half per cent of the remainder were sired by purebred boars and out of high grade sows. Six were grade litters and four crossbreds. The average weight of all the litters was 2298.93 pounds, the litters averaged 10.69 pigs each and the average weight of all the pigs was 215.1 pounds per head.

Twenty-nine counties completed the project with ton litters. The heaviest litter was produced by E. C. Deputy, Wabash county, Illinois, and weighed 3283 pounds. The second litter weighed 3101 pounds and was bred and fed by Turner Miller Putnam county." - W. H. Smith.



What Can You Afford to Pay for Soybeans? - "The following shows the value of soybeans per bushel when compared with cottonseed meal, linseed oil meal and gluten feed in dairy feeding:

Feed	Value of feed per 100 lbs.	Value of soybeans per bu.
Cottonseed meal	\$2.00	\$1.13
(Prime)		
"	2.25	1.26
"	2.50	1.39
"	2.75	1.52
"	3.00	1.65
"	3.25	1.78
Linseed Oil meal	\$2.00	\$1.18
(Old Process)		
"	2.25	1.32
"	2.50	1.47
"	2.75	1.62
"	3.00	1.77
"	3.25	1.92
Gluten feed	\$1.75	\$1.21
"	2.00	1.45
"	2.25	1.69
"	2.50	1.93
"	2.75	2.17
"	3.00	2.40

The above comparison was made on a protein basis, allowance being made for the value of nutrients other than protein in terms of their value in corn. Corn was figured at 70¢ per bushel. The cost of grinding soybeans was figured at 15¢ per 100 pounds." - C. S. Rhode.

Dairy Inspection Trip - "One hundred seventy-four farmers from Southern Illinois visited the highly developed dairy district in Green County, Wisconsin a few weeks ago. The Illinois Central made this trip possible by running a special train from Effingham, Illinois to Monroe, Wisconsin. The Effingham County Farm Bureau gave considerable publicity to this trip and was able to get 90 men from this county to go.

The object of the trip was to study the dairy practices as carried on in this important dairy region. Some of the lessons learned were that a maximum number of cows are kept. One farmer with only 80 acres had 40 head of Holstein cows. The owner of this herd stated he never has to buy hay, he purchases only a small amount of grain concentrates and that he raises enough corn to feed silage thruout the year.

Scarcely any ready mixed dairy feeds were being used. The farmer prefers to mix his own dairy rations. Altho Bluegrass grows luxuriantly, silage is fed the year around.

Thru careful selection over a period of years the cows in this district are large and have capacity to consume large amount of roughage and have the ability to return a high average production of milk.

The Green County Farm Bureau, the local breed associations and business men's associations entertained the entire party, furnishing all the eats and transportation about the county." - F. W. Wascher, Effingham County.

"Nearly all of the 18 shipping associations of the county will hold their annual meetings in January. The Farm Bureau is assisting in lining them up in groups so it will be possible to arrange good programs." - J. W. Whisenand, Henry Co



Good Plan of Checking Membership - "At the beginning of the year our Farm Bureau program called for a farm visit on the farm of every member. During the year I have kept a book in the car continually containing the name of every member with space provided for notations beside each name. I have marked in this book as time went along the date of every farm visit. At the beginning of the present month I checked up and found that there were about 85 farms that I had not visited. In looking over the list of names it is surprising to find how many of them that are left to the end of the year are men that I do not know or did not know where they lived. Upon visiting some of these farmers this month I find that they never had a visit from the farm adviser. They are the kind of men who never ask for service, who never attend meetings and whose only obligation to the farm bureau seems to have been the payment or non-payment of their farm bureau dues." - P. E. Johnston, Woodford Co.

Another Type of Window Display - The use of a store window on the busiest corner of the city of Rockford for a display of farm products at the Thanksgiving season caused the endless stream of passers-by to stop and admire the excellent samples of products grown by the farmers of Winnebago county. We had some fine corn and fruit which the window decorator of the store furnishing us the space, aided in arranging. Products of the farm always attracts the attention of the city people and the arranging of this window at the Thanksgiving season seemed to be especially fitting and we believe that the attention of the passing public to our products was worth all the effort it required to prepare the exhibit. In addition to labeling each variety shown in the exhibit, a simple card bearing the following words was inserted, "Products of the farms of Winnebago county exhibited under the auspices of the Winnebago County Farm Bureau. Thru this organization the members of the same cooperate for the betterment of their industry." - C. H. Keltner, Winnebago County.

Soybean Project Includes Exhibit - "Certified Manchu soybean production was one of the farm bureau's leading projects this year, and has proven more valuable to the county as a whole than we had anticipated. The yields will average over twenty bushels on the entire acreage.

The county made a splendid showing at the International Grain and Hay Show, having a total of 14 samples on exhibition, which were selected from 22 samples brought to the farm bureau office for exhibit. Out of the ten prizes offered in the soybean classes in region 4 west, Champaign County won five of them on certified Manchu beans grown and prepared for exhibit by the exhibitor. Grand Championship over all beans was won by a Champaign County grower.

The farm bureau recommends the growing of Manchu beans by its members, because they yield equally as well as any variety and they are earlier which is an advantage. The oil mills inform us that on a 12 hour run they get a 17% oil content on Manchus as compared to 14 and 15% on other yellow varieties, and 12% on black or brown varieties, and best of all they are selling from 35¢ to \$1.00 more per bushel than other varieties grown." - J. E. Johnson, Champaign County.

Mutual Fire and Lightning Insurance - "The farmers of Calhoun county became interested in a Mutual Fire and Lightning Insurance Company. The Farm Bureau supplied the information as to the procedure for organization. The rapidity of growth has exceeded their expectations and instead of having \$250,000 of insurance at the end of the year they have over \$300,000." - V. Vaniman

"Seventy Farm Advisers were on time with their annual reports and word from several others states that theirs are on the way. A good showing! Thanks!" - W. H. S.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the transparency and accountability of the organization. This section also outlines the various methods used to collect and analyze data, ensuring that the information is reliable and up-to-date.

2. The second part of the document focuses on the implementation of these practices across different departments. It provides a detailed overview of the current state of affairs, highlighting areas where improvements are needed. The text also includes a list of specific actions that must be taken to address these issues, along with a timeline for their completion.

3. The third part of the document discusses the role of leadership in driving these changes. It stresses that effective communication and collaboration are key to successful implementation. The text also includes a list of specific actions that must be taken to address these issues, along with a timeline for their completion.

4. The fourth part of the document discusses the importance of ongoing monitoring and evaluation. It emphasizes that the success of these initiatives depends on the ability to track progress and make adjustments as needed. The text also includes a list of specific actions that must be taken to address these issues, along with a timeline for their completion.

5. The fifth part of the document discusses the importance of training and development. It emphasizes that the success of these initiatives depends on the ability of staff to perform their duties effectively. The text also includes a list of specific actions that must be taken to address these issues, along with a timeline for their completion.

6. The sixth part of the document discusses the importance of budgeting and financial management. It emphasizes that the success of these initiatives depends on the ability to allocate resources effectively. The text also includes a list of specific actions that must be taken to address these issues, along with a timeline for their completion.

7. The seventh part of the document discusses the importance of risk management. It emphasizes that the success of these initiatives depends on the ability to identify and mitigate potential risks. The text also includes a list of specific actions that must be taken to address these issues, along with a timeline for their completion.

8. The eighth part of the document discusses the importance of stakeholder engagement. It emphasizes that the success of these initiatives depends on the ability to involve all relevant parties in the process. The text also includes a list of specific actions that must be taken to address these issues, along with a timeline for their completion.

9. The ninth part of the document discusses the importance of communication. It emphasizes that the success of these initiatives depends on the ability to convey information effectively. The text also includes a list of specific actions that must be taken to address these issues, along with a timeline for their completion.

10. The tenth part of the document discusses the importance of evaluation and reporting. It emphasizes that the success of these initiatives depends on the ability to measure progress and report on results. The text also includes a list of specific actions that must be taken to address these issues, along with a timeline for their completion.

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The Extension Messenger

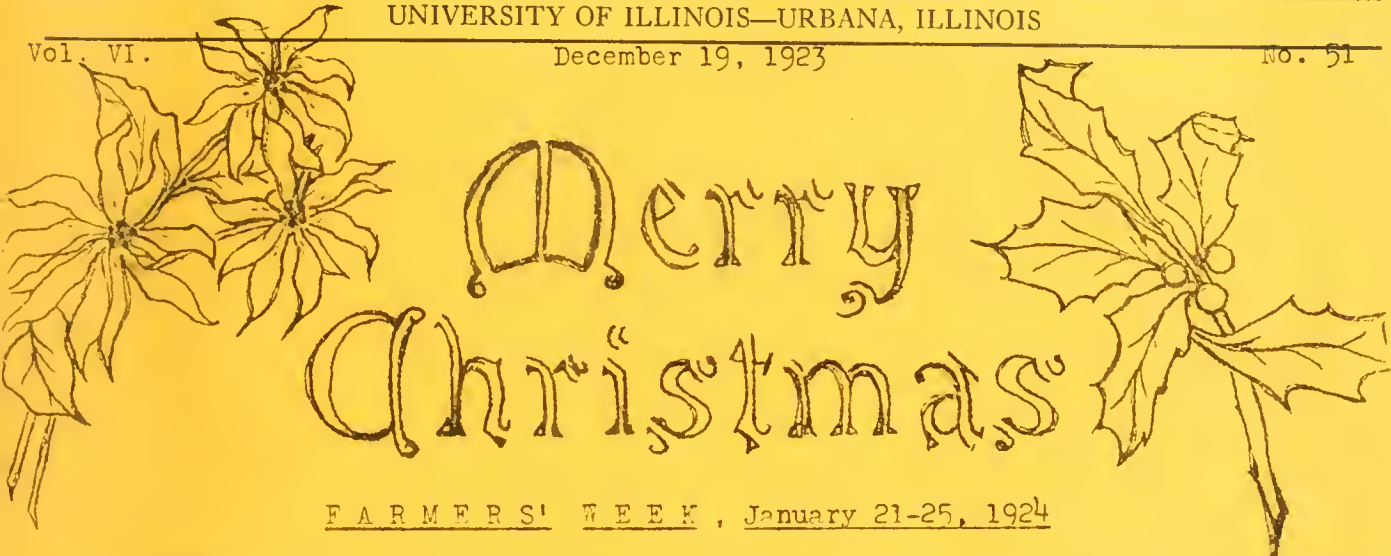
Timely Notes for Farm Advisers and others from the
Agricultural College, the Experiment Station,
and the Extension Service

UNIVERSITY OF ILLINOIS—URBANA, ILLINOIS

Vol. VI.

December 19, 1923

No. 51



Merry Christmas

FARMERS' WEEK, January 21-25, 1924

PROGRAM: Monday, January 21, will open the Farmers' Week program with general discussions of such topics as "Farmers' Interest in Taxation"; "Recent Progress and a Forward Look in Marketing Organizations", with special emphasis on the following points: (a) Live Stock Producers, (b) Fruits and Vegetable Marketing and (c) Dairy Marketing". "What Methods of 'Big Business' may be applied to Cooperative Marketing of Agricultural Products" will also be discussed. In the evening Dr. Warren H. Wilson, Teachers' College, Columbia University, New York City, will give an address on "The Contribution of the Rural Church to Agriculture".

On Tuesday afternoon, January 22, consideration will be given to the factors involved in packing, handling and transportation of perishable farm crops, such as vegetables, dairy and poultry products, and the loading of cars with live stock and grains. The Honorable James B. Aswell, Washington, D. C., Congressman from Louisiana and former State Superintendent of Education, will speak in the evening on "Selective Immigration or Alien Rule - Which?"

The sessions for Wednesday, Thursday and Friday morning will be devoted to intensive class work under the direction of different departments of the College of Agriculture. More than 120 classes will be conducted during these days.

Mr. George E. Roberts, Vice-President of the National City Bank of New York will give an address Wednesday evening on "Our Financial Situation". Dr. George E. Vincent, President of Rockefeller Institute of New York will also speak on "Rural Health and Happiness."

Thursday evening will be devoted to motion pictures and a discussion of the Horse and Mule Pulling Contest at Iowa State Fair and National Horse Show, New York City, with reference to their Bearing on Future Breeding Operations, by Wayne Dinsmore, Secretary, Horse Association of America, Chicago.

The dedication of the New Agricultural Building will occur on Friday afternoon with an address by Dean Emeritus, Eugene Davenport on "Making Headway in Scientific Agriculture" and an address by Dean Herbert W. Mumford and others. The week will close with a big banquet on Friday evening.

Open rate of fare and one-half on railroads for this meeting.

UNIT 3

Native Red Clover Seed Best - "Illinois farmers cannot afford to take chances on clover seed of questionable origin. If native-grown red clover seed is not available this season substitute sweet clover, alfalfa, native alsike clover, soybeans or some other legume, rather than take chances on costly clover failures.

The farmers of the United States are threatened with a loss of five to ten million dollars cash and with an even greater loss due to clover failure on approximately three million acres if they use the clover seed that is now being imported into the United States. The 1923 crop of clover seed in the United States is approximately 45% of normal. This condition has naturally stimulated unusually heavy importations. It is estimated that 30,000,000 pounds of imported clover seed will come into the United States, chiefly from southern Europe.

Recent cooperative experiments conducted in Iowa, Indiana, Wisconsin, Michigan, and Ohio, show the undesirability of imported seed, especially that from Italy and southern France. These tests have all been conclusive and all of these Experiment Stations have issued warnings against the use of such seed.

Not only has European seed proved inferior to native seed in the Corn Belt, but it seems equally undesirable in the South. Tests conducted in Tennessee, Louisiana, Georgia and Virginia, under the direction of Dr. A. J. Pieters of the U. S. Department of Agriculture, have shown that farmers cannot afford to purchase imported seed, even at a very low price. In the north portion of the United States the imported seed is not as winter-hardy nor as productive as United States grown seed. The small amount that does live thru makes practically no second crop and is very susceptible to all diseases. In the South, where hardiness is not a factor, diseases practically destroy these susceptible strains." - J. C. Hackleman, U. of I.

University Secures New Dairy Sire - "For almost two years the Dairy Department has felt secure in the use of its Jersey sire, Majesty's Gamboge Lad. This feeling came as a result of the remarkable daughters which this bull sired in the herds where he was previously used. When a bull sires daughters which have made state records for production and others which have averaged \$1,250 each in auction sales, it is no experiment to use him and it has been a satisfaction to know that such a bull was in service in the University Dairy Herd.

Life is uncertain; almost over night and seemingly in justification of that old, old adage 'The Good Die Young', Majesty's Gamboge Lad after a fatal attack of Nephritis was lost to the University and to the Jersey breed at large. It, therefore, became necessary to secure a fitting successor to this great bull.

Even before 'Lad's' death it had been planned that his successor should be of 'Noble' breeding, inasmuch as the 'Majesty' and 'Noble' cross had in many instances proven especially desirable.

By right of birth Leda's Magician should be a worthy successor to 'Lad'. His sire is no less a Jersey celebrity than Leda's Raleigh, one of the greatest bulls of his time and Grand Champion at the National Dairy Show. Leda's Raleigh is in turn by Raleigh's Fairy Boy, also a grand champion at the National Dairy Show and a sire of great producing cows. It has been often stated that no bull can be a truly great sire unless he have a great mother. If such be true, Leda's Magician must have a high rating as his mother is Golden's Fern's Magic, a most excellent daughter of that matchless sire Golden Fern's Noble. Anyone who was present at the last National Dairy Show and had the privilege of seeing the Majestic bull Fern's Wexford Noble leave the pavilion in all his glory can well appreciate his sire Golden Fern's Noble who years before was able to do the same thing.

Individually 'Magician' is able to give a good account of himself in most any show ring. His calves and youngsters give promise of developing into most acceptable animals. Time alone will tell whether or not he can be regarded as worthy to fill the stall left vacant by the death of 'Lad'." - W. W. Yapp, Dairy Department.

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Sodium Nitrate and Ammonium Sulfate for Tree Fruits - "The general use of commercial forms of soluble nitrates in the production of tree fruits is relatively new. Sodium nitrate (Chile Saltpeter) as imported from South America is one of the best known carriers of nitrogen. The nitrogen in sodium nitrate, as the name implies, is nitrate nitrogen and therefore in a form which plants can draw upon immediately. The continued use of sodium nitrate on tree fruits apparently produces no harmful results but where possible to use legumes it should be remembered that these plants, in addition to supplying nitrogen, increase the humus content of the soil which is important from several standpoints.

Ammonium sulfate is a by-product of manufacturing plants from which there is often a surplus and consequently a selling campaign may be inaugurated which may set forth extravagant claims. Ammonium sulfate is slightly less soluble than sodium nitrate and presumably the nitrogen being in the sulfate form must be nitrified before plants can use it. In practice it appears that the same results are secured from the 'sulfate' as from the 'nitrate' when used on a nitrogen equivalent basis. By decomposition ammonium sulfate tends to produce an acid condition in the soil which is undesirable from the standpoint of some crops. Fruit trees, which seem to like an acid soil, are not likely to be injured by the acidity produced by reasonable applications of 'sulfate'. Ammonium sulfate contains approximately 20% of the element nitrogen; sodium nitrate contains 15% or 25% less than ammonium sulfate.

The prices quoted on the two products will reflect the nitrogen content so that if sodium nitrate is quoted at \$60 per ton, ammonium sulfate will cost \$80 per ton. The two products should be compared on a delivered basis. Sodium nitrate takes the chemical freight classification which is higher than the fertilizer classification under which ammonium sulfate is shipped. Both 'nitrate' and 'sulfate' are usually offered in 200 pound bags. It is advisable to anticipate the season's requirements and have deliveries made in February or early March because to get best results the material should be applied just as growth begins. The amount to apply to apple trees in terms of nitrate, will vary from $\frac{1}{4}$ pound to a newly planted tree on poor soil to 15 pounds per mature tree which has become unproductive. A fairly safe rule to follow in fertilizing mature trees is to use nitrate as heavily as possible without materially reducing the color of fruit. Peach trees which are carefully cultivated may not require much nitrate during the first three or four years if the foliage is luxuriant and none of it lost by disease. Lack of vitality is the signal to apply from 2 to 6 pounds per tree depending upon age and condition. Nitrate may be applied broadcast over the area covered by the spread of the branches and need not be worked in." - W. S. Brock.

Club Members Make Good Impression - "The Second National Boys' and Girls' Club Congress held at the recent International Live Stock Exposition was the greatest gathering of club members in history. Over 1600 club members from 43 states attended. These members were all county or state champions and were given a full week visiting the live stock show and many points of interest in Chicago.

The people of Chicago, as well as those attending the live stock show, also received an education. It was a demonstration of the proportions to which club work has grown in the past few years. One man who has attended the International for the past ten years remarked, after seeing the parade of 1600 club members at the Tuesday night show, that it was the greatest sight he had ever seen.

A poll taken at the Rally held at the Morrison Hotel on Monday night showed that practically all the members came from homes which held membership in the Farm Bureau and that all had bank accounts as a result of their club projects.

Every one who came in contact with these boys and girls during the week received an inspiration and were impressed with the results being obtained in club work. They also felt that with such a body of boys and girls being trained in community organization and leadership, learning better methods of farming and home making that the future of farming in those counties from which these young folks came is assured." - E. I. Pilchard.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

2. The second part of the document outlines the specific procedures for recording transactions. It details the steps involved in the accounting process, from the initial entry of a transaction into the ledger to the final posting to the general ledger.

3. The third part of the document discusses the role of the auditor in verifying the accuracy of the records. It describes the various techniques used by auditors to test the reliability of the accounting system and to ensure that the financial statements are true and fair.

4. The fourth part of the document discusses the importance of internal controls in preventing errors and fraud. It describes the various types of controls that can be implemented, such as segregation of duties, authorization requirements, and physical controls over assets.

5. The fifth part of the document discusses the role of the management in ensuring the proper functioning of the accounting system. It describes the various responsibilities of management, such as establishing the accounting policies, providing resources for the accounting department, and reviewing the financial statements.

6. The sixth part of the document discusses the importance of communication in the accounting process. It describes the various ways in which the accounting department can communicate with other departments and with management to ensure that the financial information is accurate and timely.

7. The seventh part of the document discusses the importance of training and development for the accounting staff. It describes the various ways in which the accounting staff can be trained and developed to ensure that they have the necessary skills and knowledge to perform their duties effectively.

8. The eighth part of the document discusses the importance of technology in the accounting process. It describes the various ways in which technology can be used to improve the efficiency and accuracy of the accounting system.

9. The ninth part of the document discusses the importance of ethics in the accounting profession. It describes the various ways in which accountants can ensure that they are acting in a fair and honest manner and that they are adhering to the highest standards of professional conduct.

10. The tenth part of the document discusses the importance of the accounting system in the overall business operation. It describes the various ways in which the accounting system can provide valuable information to management and to other stakeholders, such as investors and creditors.



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